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# Predicting Criminality

FORECASTING BEHAVIOR ON PAROLE

*By*

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# INTRODUCTION AND HISTORICAL BACKGROUND

## I

RECENT years have seen in this country a widespread acceptance of the indeterminate sentence and parole for convicted felons. Contrary to some of the more popular fallacies on the subject, this has resulted neither in decreased penalties for wrongdoing nor in premature release of dangerous individuals. Rather, parole has been the means of supplanting unsupervised release by release with at least a degree of supervision, without diminishing the average time served for a given crime. The fact remains, however, that nearly all prisoners will, at some time, leave their prisons, either on parole or by discharge, and since the former method is preferable, from a social point of view, for the sake of the supervision thus obtained, the chief question facing a parole board is not *whether* to parole, but *when* to parole. Determining when to parole is frequently difficult, since two very divergent questions must be considered: (a) When release will be most conducive to the greatest success for the man paroled; and (b) When the prisoner has served sufficient time to appease the public and the prosecuting witnesses.

The first of these considerations rests upon a number of factors, chief of which are:

(1) That differences in individual offenders indicate varying periods of incarceration even for identical crimes, which means, simply, striving to fit the punishment to the individual rather than to his crime.

(2) That a short period of time in prison may, in some instances, be more effective than a longer term in convincing an offender of his error and rendering him willing to go out and make good.

(3) That continued application of the influence of prison discipline after the need for it has passed may result in its coming to be considered by the prisoner as a staff rather than a curb and that he may thus learn to lean upon it to the extent that its withdrawal may leave him unable to adjust himself to any less regimented environment.

(4) That release, under supervision, and with the fear of return, may exert a tremendous pressure to go straight.

(5) That with continued authority over the prisoner after his release, his adjustment to society is to a large extent susceptible to control.

Determining when sufficient time has been served to appease public resentment, however, involves the consideration of a number of factors

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which are frequently so much in conflict with constructive parole administration that when they seem to loom too large in a particular decision, it is often found easiest to deny parole and give a long setting, thus avoiding the vindictiveness of a possibly disgruntled prosecuting witness and also getting away from the inevitable "I told you so" which results when a paroled prisoner fails to live up to his agreement. Because of this conflict in purposes, there is a tendency to ignore or undervalue parole predictions to the extent that a favorable prognosis based upon the effort to make the punishment fit the individual may not benefit him, whereas an unfavorable prediction, arrived at in the same manner, may cause him to serve considerably more time than would otherwise be imposed upon him.

The general theory has been that individuals convicted of similar offenses may differ so much that those charged with the responsibility of determining when parole should be given have a difficult decision to make. Those upon whom the responsibility of parole rests are, of course, interested primarily in doing what is best for society, and in what is best for the individual only to the extent that the interests of the individual and those of society coincide. Certainly it is not to the interest of society to release anyone who is likely to resume antisocial behavior very soon after his release; yet, generally, one who views this problem unemotionally and objectively wishes to release as early as possible the man who has learned his lesson and who can no longer be considered dangerous to society. Ability to classify men accurately in these two respects would greatly simplify the work of the parole boards or others upon whom devolves the responsibility for parole. Prediction as to probable success on parole is, therefore, a self-evident necessity, as is emphasized by Hart<sup>1</sup> and by Warner,<sup>2</sup> the latter specifically suggesting that a record of the reactions of the prisoner to the various conditions represented by prison life may be so evaluated as to constitute a most significant criterion of parolability—a term which will be used throughout this study to denote that complex of factors which determines the likelihood of the inmate's making a successful adjustment on parole.

In Illinois, in 1920, the State Criminologist started examining prisoners psychiatrically. Men were classified into different personality-groups, and on the basis of this classification modified by general impressions obtained during the course of the interview plus a general interpretation of the prisoner's background, a prognosis was made. The principal method of selection, however, was the Parole Board interview—thorough or superficial as the case might be—with the type of crime dictating, to a large extent, the term of incarceration, and no logical bases being employed to account for the impressionistic opinions formed.

<sup>1</sup> Hart, Hornell: "Predicting Parole Success," *Journal of Criminal Law and Criminology*, 14:405-14, 1923.

<sup>2</sup> Warner, Sam B.: "Factors Determining Parole from the Massachusetts Reformatory," *Journal of Crim. Law and Crim.*, 14:172-207, 1923.

In 1927, Professor E. W. Burgess, a member of a committee appointed by the Governor of Illinois to analyze the parole system of the state, caused a study to be made of one thousand cases in each of the three Illinois prisons for men. This study examined factors making for success or failure on parole, in which various factors on record about each man paroled were analyzed, and each factor was related to his outcome on parole. As a result of this study, Burgess concluded that there was a decided relationship between the number of favorable factors and success on parole. He pointed out the possibility of developing an experience table based upon an analysis of these factors.<sup>3</sup>

An extension of this study by Tibbitts resulted in a further development of the idea. Tibbitts analyzed an additional two thousand cases which had been paroled from the Illinois State Reformatory at Pontiac.<sup>4</sup> From the data thus secured, an experience table which might be used experimentally as a basis of prediction was developed for each of the three institutions.

Another method of prediction was developed by Drs. Sheldon and Eleanor T. Glueck.<sup>5</sup> The fact that funds were available in this study for complete verification by field investigators of all official information gives the data utilized a much higher degree of reliability than was possible in the case of the Illinois study. The Gluecks selected those factors in the pre-penal and penal life of their subjects which were most closely associated with outcome on parole, and, instead of the large number of un-weighted factors used by Burgess, substituted a few highly associated factors which were weighted by assigning to each sub-category of each factor the actual percentage, to three decimal places, of the subjects included in the category who failed on parole. Such partial "failure scores" were then added into a total "failure score" for each individual, and an experience table was based upon such failure scores suitably grouped.

For a number of years, the psychiatrist in the Division of the Criminologist in Illinois has included a prediction or prognosis as to the probable extramural adjustment of each inmate upon whom a report was written for the Parole Board. The following table, taken from the Burgess report, indicates somewhat the validity of these predictions for Joliet.

It is obvious to anyone who has familiarized himself with the techniques used that the prognosis made by the psychiatrist in most of these cases was based upon more or less subjective judgments after a more or less routine psychiatric interview, and that not even the items in these subjective judgments were sufficiently standardized to insure that the same prognoses might be obtained by different investigators. Furthermore, these judgments were likely to be opinionated, and there was no

<sup>3</sup> Bruce, Harno, Burgess, Landesco: *Parole and the Indeterminate Sentence*.

<sup>4</sup> Tibbitts, Clark: "Success or Failure on Parole Can Be Predicted; etc.," *Journal of Crim. Law and Crim.*, 22:11-50, 1931.

<sup>5</sup> Glueck, Sheldon and Eleanor T.: *500 Criminal Careers*.



TABLE I  
PSYCHIATRIC PROGNOSIS  
IN RELATION TO RECORD ON PAROLE

Psychiatric Prognosis	Total	Discharged on Parole	Continued Technical Violations	New Offenses	2 or More Offenses	2 or More Violations	Other Penitentiaries	Died	Total Violators	Percentage of Violation
No Prognosis	496	355	2	50	..	26	1	6	135	27.1
Favorable	347	272	7	22	30	10	..	4	71	20.5
Doubtful	37	17	..	8	5	6	..	1	19	51.4
Unfavorable	120	58	3	20	24	11	..	3	59	49.2
	1000	702	12	100	115	53	1	14	284	28.4

Note: If the psychiatrist did not commit himself as to what conduct on parole might be, there was no attempt to determine it from the context of his report. In all cases scored under "favorable," "doubtful," or "unfavorable," there is a definite statement in the report to warrant such scoring.

body of experience available which might form a scientific basis for them. For example, one psychiatrist, who, during a period of several months, reported many of the parole-board cases, showed a tendency to predict extramural adjustment largely on the basis of what he termed "stupidity" in almost every case where there was a low intelligence-quotient, despite the fact that Burgess and even his fellow-psychiatrists are not in agreement with such over-valuation of this single factor.

Prognoses as to future behavior by a psychiatrist, whose education and training are those of a doctor of medicine, seem to imply that criminality is a medical problem. This appears to be an unwarranted assumption. Criminality is rather a social problem, and psychiatrists without training in sociology are as little qualified to diagnose and evaluate the factors contributing to criminality as sociologists with no psychiatric training are qualified to cope with mental disease.

The Burgess system, then, seems to be the first to furnish any form of objective measurement of parolability. Some application of the Burgess findings for purposes of prediction was made during 1932-1933 by the Division of the Criminologist of the State Department of Public Welfare at the Joliet Penitentiary. For a time, cases coming before the Parole Board for hearing were analyzed according to the Burgess factors, and the report which was submitted by the psychiatrist usually contained the statement: "This man falls in the group of which from —% to —% have been found to violate parole agreement." This was based upon the evaluation of some twenty-one factors such as Offense, Sentence, Time Served, Age, Nationality, Marital State, and Type of Offender.

With the nation-wide Democratic landslide in the elections of 1932, Illinois elected a Democratic Governor, Henry Horner. Among the early appointments of Governor Horner's administration was that of John Landesco as a member of the Parole Board. Mr. Landesco had been the criminological expert for the committee which reported on parole and indeterminate sentences a few years earlier. He was familiar with the studies of parole predictability made by Burgess, Tibbitts and others, and through his efforts, the legislature, in 1933, made provision in the Division of Pardons and Paroles for the employment of sociologists to make analyses and predictions in the cases of all men being considered for parole. It was definitely understood that the work of these men would be something more than mere routine application of the experience tables already developed by Burgess and Tibbitts; they were expected to engage in further research for the purpose of expanding these tables, to refine the factors which had gone into them, and to improve the methods of prediction in any other way which seemed possible.

A brief description of the Burgess system may be helpful here in order to render comprehensible some of the criticisms that seemed to indicate the need for a new criterion of parolability. As used at Joliet, the Burgess

system involves an analysis of an inmate according to the available information regarding him on the basis of twenty-one factors. These are: Offense, Sentence, Time Served, Age, Nationality, Marital Status, Type of Offender, Previous Record, Punishments, Prosecuting Attorney's Statement, Associates, Working When Arrested, Social Type, Mobility, Community, Neighborhood, Family, Work Record, Intelligence Quotient, Personality Type, and Psychiatric Prognosis.

One thousand cases were used in the formulation of an experience-table. Twenty-eight and four-tenths percent of these cases violated their parole agreement. The percentage of violation in each of the several categories, or sub-classes, within each of the twenty-one factors was then determined, and the factor was considered favorable or unfavorable, according as the rate of violation in the sub-classes was less, or more, than the average rate of violation for the entire group.

The cases were subsequently grouped according to the number of favorable factors in each individual case and the rate of violation determined for each of these groupings. The following table resulted and is at present being used as the basis for prediction in the Joliet and Stateville penitentiaries.

TABLE II  
PREDICTION SCORES

OF PERCENTAGE OF PROBABILITY OF SUCCESS ON PAROLE

Based on smoothing Tibbitts' figures by a running average of twos  
Computed by William F. Lanne

Favorable Factors	Percentage of Success	Percentage Group
2-3	14%	From 7% to 22%
4-5	35%	From 22% to 38%
6-7	40%	From 38% to 49%
8-9	57%	From 49% to 64%
10-11	72%	From 64% to 80%
12-13	89%	From 80% to 93%
14-15	97%	From 93% to 98%
16-17	98%	
18-19	99%*	
20-21	99%*	

\*These two groups actually come out 100% on the basis of the data at hand.

The procedure is to indicate for each inmate the sub-class of each factor under which he is classified, and to give a plus or a minus in accordance with the rate of violation for that sub-class. The plus points for all factors are then summed and the total shows the probability group

into which the man falls. Thus if he has a total of fourteen plus factors it is said that his probability of success on parole is 97%. Similarly, if he has only six plus factors his probability of success is reported as being 40%.

This system of prediction is based entirely upon that information about the prisoner which may be found in the records. The original study was made of cases of men already paroled and not available for interview or for any verification of recorded material. Furthermore, the information was principally contained in the "History Sheet" which was filled out at the time of the prisoner's admission to the prison by civilian or inmate clerks not especially interested in sociological problems. Except for the items "Time Served," "Age," "Punishments" and "Psychiatric Prognosis," these factors are entirely unrelated to the length of time the inmate remains in the prison. They are purely static, and all of them except "Punishments" and "Psychiatric Prognosis" might be as validly determined at the time of admission to the penitentiary, or at the time of sentence, as later. They assume very little possible change in parolability as a result of the reforming (or demoralizing) influence of experience in prison. Whether this assumption is justified will not be discussed at this time. Suffice it to say that such an assumption is entirely contrary to the whole theory upon which our prison system is based—that of reform and rehabilitation.

Then, too, some of the factors used in the Burgess system are not wholly satisfactory. Some of the classifications are so ambiguous that it is almost fortuitous when a given inmate receives the same classification from two different investigators. For example, it is often difficult to determine whether, under "Social Type," a man should be classified as "Gangster," "Socially Inadequate," "Ne'er-do-well" or even "Farm Boy." In "Home Status," the difference between "Average Home" and either "Superior Home" or "Inferior Home" is so difficult of distinction that the tendency is to include them all under "Average."

Even the method by which most of the personal history is secured and recorded renders it of questionable value. Upon his arrival at the prison, the inmate is asked to give the information for the record and it is taken down as he relates it. For many years it was the practice to record under the heading "Age Left Home" the age at which the prisoner started to work, whether he remained living under the parental roof or not. Even such factors as age and marital state cannot be accepted as recorded because misinformation is so frequently given on these items. Sutherland and Van Vechten, for example, find that the percentage of inconsistency in criminal statistics rises to 69.7% in the case of one item.<sup>6</sup>

There is also a duplication of factors which is likely to cause an unin-

<sup>6</sup> Sutherland, E. H., and Van Vechten, C. C., Jr.: "The Reliability of Criminal Statistics," *Journal of Crim. Law and Crim.*, 25:10-20, 1934.

tentional weighting. Such, for instance, are the factors "Type of Offender" and "Previous Record." Inmates are classified as first offenders, formal first offenders, occasional offenders, habitual offenders, or professional criminals, but by the very definition of these terms the individual who, under the factor "Previous Record," is classified as having no previous record, is also the individual who is classified as a "First Offender." Conversely, it is the men with reformatory and penitentiary records who comprise the habitual and professional criminal classes. These two factors, then, on their face are highly correlated. Although a previous record may be one of the most important of the factors used, there is no demonstrable reason for weighting it with the addition of an almost synonymous factor.

Another pair of the Burgess factors which must, of necessity, exhibit high correlation is "Offense" and "Sentence." Since in most cases the sentences meted out for various offenses are rigidly prescribed by law, the two factors tend to approach identity.

The foregoing criticisms indicate the need for factors supplementary to those used in the Burgess Scale. If reform is at all dependent upon factors inherent in the personality of the individual, some evaluation of these intrinsic factors should be useful in predicting his future conduct.

The present investigation was undertaken on the theories that:

(1) Social adjustment subsequent to incarceration for crime is dependent largely upon attitudes.

(2) These attitudes may be the result of habits and background prior to incarceration, but they are subject also to considerable modification as a result of the prison experience.

(3) The practical problem in parole work is not *whether* to parole a man, but *when* to parole him.

With these assumptions in mind, it is apparent that if some means could be found of determining attitudes periodically, one might be able to ascertain the exact point of greatest probable success on parole. Naturally, the first step would be to discover a method of determining attitudes as of any one time, since upon the successful solution of this problem would depend entirely that of estimating periodicity of parolability.

The problem for investigation in testing the assumptions noted became three-fold: (1) Is there such a thing as "parolability" and is it subject to quantitative measurement? (2) Upon what factors is it based? (3) How can the presence or absence of these factors in any given case be determined?

In numerous discussions with students of criminology, with prison officials and with inmates of the penitentiary, the statement was frequently heard, in one way or another, that if one could get the honest opinion of an intelligent inmate about his fellow-inmate, one would have a better guide than any previously discovered. Dr. George W. Kirchwey,

one-time Dean of the Columbia Law School, former warden of Sing Sing Prison, and certainly one of the greatest figures in the history of American penology, for instance, writes in a letter to the author: "I would trust the judgment of a prisoner in whom I had confidence, regarding the probability of a successful parole, more than the judgment of a psychiatrist or of a parole board, and far more than the score derived from any prediction method."

If these estimates of inmates or "hunches" are valid, it follows that an analysis of the prisoners by an official, proceeding on the same basis as that which prompts the inmate's prediction, would place the authorities in possession of an excellent instrument for prediction. Before proceeding to attempt such an analysis, it seemed advisable to ascertain whether valid estimates really exist, and if so, what objective factors enter into the making of these subjective judgments. Cooperation in this undertaking was secured from certain inmates who became interested in the problem. Some of these men have participated in the entire project, and without their valuable aid the work would have been impossible.

# DO VALID ESTIMATES BY INMATES EXIST?

## II

**A**LTHOUGH it frequently offers valuable clues to the existence of facts, unanimity of opinion among qualified observers cannot be accepted as proof or permitted to take the place of objective investigation and, where possible, experimentation. One has but to reflect upon the universality of the belief in witches, shared by the most eminent minds of the day a short three centuries ago, to admit the necessity of objective checks upon opinion. The hypothesis of the validity of inmates' "hunches," then, cannot be accepted as true without further investigation even when supported by such a name as Kirchwey.

But how shall this hypothesis be subjected to the test of facts? The ideal experiment, obviously, would consist in actually checking, against outcome on parole of a large number of individuals, the pre-judgments on the basis of predictions of qualified inmates. But this procedure would necessitate in Illinois the passage of at least three and probably five years before verification were possible; for the reason that the usual parole period in this state is three years, and final discharge, except in cases of expiration of sentence, is ordinarily not granted before the end of the thirty-sixth successful month on parole.

Careful record has been made and preserved of all estimates in the case of every individual employed as a subject in this research, and at the end of a number of years we shall, as a result, have a true criterion of validity by which it will be possible to test quantitatively the accuracy of the "hunch" system.

It is the opinion of the writer that the waiting period may be replaced by substituting an indirect method—still, however, entirely objective—of ascertaining the validity of hunches. This method rests upon the following considerations: it is a well-established fact that when qualified observers record their judgments as to the possession by each of a number of subjects of some well-defined, really existing quality, these judgments, when stated quantitatively, exhibit a certain degree of correlation. Thus, when, for example, six high-school principals record their estimates of the intelligence of each of a number of applicants for a position as teacher, experience shows that the judgments will be correlated, generally to a degree expressible by a Pearsonian coefficient of correlation of from  $+.40$  to  $+.60$ . Somewhat similar coefficients of correlation result when judgments are based not upon intelligence, but upon other really existing but

not easily measurable qualities such as tact, good sportsmanship, or æsthetic taste.

Further, the degree of correlation among the judgments of various observers varies directly as the objectivity of the concept involved. The correlation among judgments of almost any observers on the matter of physical stature would be very high—it might approach unity in the case in which the subjects were all of quite different heights. Judgments on piety or on philosophical insight, on the other hand, would, in all probability, show much lower coefficients of correlation.

No one in ordinary daily life hesitates to employ similar "common-sense judgments." No hesitation would ordinarily exist in stating quite positively that A is more intelligent than B, who, in turn, is more intelligent than C; nor that D has a better ear for music than E or is not so good a "sport."

Were we to tabulate the judgments of independent observers as to the possession on the part of others of some so-called "quality," which did not in fact exist, or which rested on a very vague and variable conceptual basis, we should, of course, expect to find no correlation whatsoever. The case is analogous to asking independent observers to write down entirely at random the numbers from one to ten and then attempting to correlate the results. Although in any one given case a coefficient of correlation differing more or less widely from zero might be expected to occur, such coefficients would, in a large series of trials, fluctuate about a mean value of zero.

In view of the facts cited, it should be possible to reason conversely, and from the existence of a high coefficient of correlation among judgments of various observers under properly controlled conditions, to infer not only the real existence but also the susceptibility to quantitative measurement of an hypothetical quality. The existence of a single high coefficient would give presumptive evidence in favor of the truth of the hypothesis; the repeated occurrence of successive high coefficients with different groups of subjects and with different observers would increase this evidence to the level of practical certainty.

It is to this test that the question of the existence and measurability of "hunches" as to parolability was subjected.

Active work began on October 19, 1933. Two inmates, X and Y, were asked to collaborate in the experiment. Inmate X, who became the head of the inmate staff and who has been from the outset in complete charge of the statistical portions of the research, is a man of thirty. Serving a life sentence, he had at the inception of this investigation been incarcerated for a little more than nine years. He holds a bachelor's degree from one of the leading universities of the country, where he majored in the social sciences. He is a member of Phi Beta Kappa and his score on the Army Alpha Intelligence Test is 208. Inmate Y has been much less ac-



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tively associated with the investigation since the preparation of the original "hunch" scorings. He, too, is a college graduate of high intelligence.

The procedure of these investigators was as follows: each independently listed 100 inmates who would fulfill the following requirements:

(1) Each believed that he could hazard an intelligent guess as to the probability of success on parole of each individual named.

(2) Each was of the opinion that his collaborator in the experiment was also acquainted, at least casually, with each individual chosen.

The original intention was to limit the final list to those names which were common to both lists. It was found that 49 names were common to the two lists, and it was then decided to incorporate both lists into one and to use 150 subjects as the basis for investigation. Y was acquainted with all the subjects on X's list; X was acquainted with 98 of the 100 subjects on Y's list. The two who were not known to him were eliminated, and one additional subject was chosen by common consent, thus giving the desired list of 150 subjects answering the requirements.

In order to acquire some degree of facility in grading individuals, the final scoring was postponed and by way of practice it was determined that X and Y should separately score each individual listed on the following basis:

(1) It was assumed that each individual listed was to be paroled the following day. This was for the purpose of eliminating any differential factor based on judgments as to possible future changes of parolability, and thus limiting the hunches to the present status.

(2) It was further assumed that each individual would be required to serve a three-year period on parole, at the expiration of which he would be granted discharge if he had committed no violation. This effectively obviated differential factors arising from the possibility of expiration of sentence during the parole period.

(3) It was further assumed that each individual would live 22 years after the expiration of the parole period, or 25 years from the date of the investigation. This was for the purpose of eliminating the differential factor arising from varying life expectancies.

The scores were to represent the probabilities, in the judgment of the observers, that the subjects would neither violate their parole nor be again convicted of a felony during the ensuing 25 years. In other words, the scores represent the ratio to 100 of the probability of a given individual never again being returned to the penitentiary nor to any similar institution. The following further assumptions were made:

(1) Convictions of a felony only shall be counted as a failure after the expiration of the parole period.

(2) All violations of parole shall be counted as failures, whether they be technical or otherwise, but the element of "continuation on parole" is not considered.

(3) Being killed in the alleged commission of a felony counts as a failure.

(4) Grades are to be given on the basis of 100, and in multiples of 5 only.

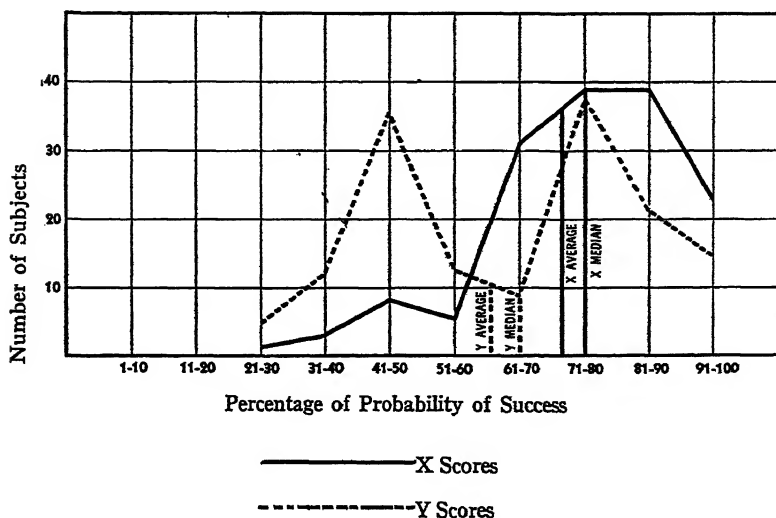
These tables were prepared independently, and neither observer saw the sheet belonging to the other until after similar sheets for the following study had also been prepared. Means and medians were determined for these tables, and the results graphed, both from ungrouped data, and from the same data grouped in 10% intervals: 1%-10%, 11%-20%, etc. The means and medians are:

	X	Y
Mean	61.47%	47.40%
Median	60.00%	40.00%

Although these tables were prepared primarily for the purpose of furnishing the observers with practice in grading, the original figures have been preserved for possible future use.

Figure 1

"HUNCHES" OF X AND Y AS TO THE PROBABILITY OF SUCCESS ON THREE-YEAR PAROLE OF THE ORIGINAL SUBJECTS



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Next, X and Y, without reference to the tables already prepared, either his own or his collaborator's, and after the passage of several weeks from the preparation of the first tables, prepared a second set of tables based upon the same 150 subjects and using the same scoring system, but with the difference that this time the probability was to be that of success on the three-year period of parole alone. The results of this scoring are presented numerically in Table III and graphically in Figure 1. Means and medians are:

	X	Y
Mean	77.23%	66.23%
Median	80.00%	70.00%

Further, Pearsonian coefficients of correlation were computed from the paired scores (a) for the first 50 cases, (b) for the first 100 cases, (c) for the entire 150 cases. These are:

$r_{50} = +0.6560$	$\pm P.E. = 0.0296$	$r/P.E. = 22$
$r_{100} = +0.6180$	$\pm P.E. = 0.0345$	$r/P.E. = 18$
$r_{150} = +0.6236$	$\pm P.E. = 0.0345$	$r/P.E. = 18$

These coefficients of correlation were well above those normally found, for example, in comparisons of estimates of intelligence, and, combined with the very high critical ratios, they seemed to point to the definite existence of a measurable quality: parolability. There remained, however, the possibility that the correlation represented "like-mindedness" on the part of X and Y rather than any objective quality. To test this assumption two further investigators, Z and W, were invited to participate in this portion of the research.

Investigator Z was twenty-eight years of age and had served six years of a sentence of from one year to life. His Army Alpha score is 136. He had been acquainted with investigator Y for a period of five years, and with investigator X for one year.

Investigator W was twenty-five and had served five years, also on a sentence of from one year to life. His Army Alpha score is 133. He had been acquainted with investigator X for three years, and with investigator Y for two.

Both men were required to submit to the same procedure as had been undergone by X and Y. They first graded as many of the 150 subjects on the original list as were known to them on the matter of life-expectancy. After the passage of some time and without seeing any lists, either their own or those of the other investigators, both graded the same individuals on the probability of successful completion of parole. Z was able to grade but 87 of the 150 subjects; W knew 139 of the subjects well enough to score their probability of success.

TABLE III

"HUNCH" SCORES ON THE PART OF X AND Y ON THE PROBABILITY OF  
SUCCESS ON A THREE-YEAR PAROLE OF 150 SUBJECTS

Subject	X Score	Y Score	Subject	X Score	Y Score	Subject	X Score	Y Score
1	65	75	51	90	50	101	85	45
2	90	85	52	80	45	102	55	50
3	40	35	53	75	45	103	90	80
4	55	50	54	50	35	104	60	45
5	85	90	55	65	50	105	75	85
6	75	60	56	75	60	106	95	75
7	80	75	57	70	55	107	70	45
8	75	40	58	85	85	108	85	50
9	95	95	59	70	30	109	100	100
10	90	95	60	70	80	110	85	45
11	90	95	61	80	85	111	70	70
12	70	50	62	75	80	112	80	35
13	90	90	63	80	55	113	90	80
14	65	40	64	75	75	114	90	85
15	75	45	65	95	65	115	90	85
16	70	85	66	70	75	116	80	50
17	65	60	67	80	80	117	85	40
18	85	85	68	85	75	118	75	80
19	75	50	69	80	75	119	85	50
20	85	60	70	65	75	120	95	95
21	65	75	71	75	80	121	80	75
22	75	40	72	50	50	122	75	45
23	85	45	73	85	75	123	95	80
24	70	30	74	35	25	124	95	85
25	90	45	75	75	80	125	85	45
26	85	55	76	95	85	126	90	65
27	85	60	77	100	100	127	95	95
28	25	30	78	80	80	128	65	45
29	55	40	79	85	80	129	70	55
30	50	30	80	80	80	130	95	90
31	85	95	81	60	75	131	80	75
32	100	100	82	50	45	132	90	80
33	75	40	83	75	80	133	85	75
34	80	35	84	60	50	134	75	80
35	75	95	85	85	75	135	65	45
36	90	80	86	45	50	136	100	100
37	50	40	87	65	35	137	70	50
38	75	85	88	45	45	138	85	90
39	100	100	89	85	55	139	80	85
40	90	70	90	70	40	140	95	85
41	70	50	91	70	75	141	95	95
42	85	75	92	70	70	142	95	95
43	45	70	93	80	80	143	80	70
44	70	60	94	80	80	144	95	90
45	85	50	95	65	75	145	35	50
46	95	95	96	75	70	146	75	55
47	65	45	97	70	60	147	65	45
48	65	45	98	85	80	148	95	90
49	85	45	99	95	85	149	80	80
50	100	90	100	95	50	150	70	70

 $r_{80} = +0.6560$  $r_{100} = +0.6180$  $r_{150} = +0.6236$

## Predicting Criminality

The means and medians of the scores of these two investigators, based on 87 subjects for Z and 139 subjects for W, are as follows:

	Z	W
Mean	57.24%	74.57%
Median	50.00%	75.00%

Coefficients of correlation were now calculated for all combinations arising from the presence of four investigators. These, together with their probable errors and critical ratios, are as follows:

COEFFICIENTS OF CORRELATION  
BETWEEN "HUNCH" SCORES ON THREE-YEAR PAROLE

$r_{XY} = +0.6236 \pm \text{P.E.} = 0.0345$	$r/P.E. = 18$	$r_{YZ} = +0.5073 \pm \text{P.E.} = 0.0533$	$r/P.E. = 10$
$r_{XZ} = +0.4051 \pm \text{P.E.} = 0.0597$	$r/P.E. = 7$	$r_{YW} = +0.3416 \pm \text{P.E.} = 0.0501$	$r/P.E. = 7$
$r_{XW} = +0.5036 \pm \text{P.E.} = 0.0436$	$r/P.E. = 12$	$r_{ZW} = +0.5401 \pm \text{P.E.} = 0.0525$	$r/P.E. = 10$

The actual scores of W and Z, upon which these correlations are based, are contained in Table A1 (Appendix A).

The mean of these coefficients is +48.7, and the lowest ratio of coefficient to its probable error is 7. It is a practical impossibility that any single one of the coefficients represents a mere random fluctuation; an infinitesimally small figure would be required to express the probability that the whole series could have arisen by chance.

Since the six obtained inter-correlations of "hunch" judgments lie within the range expected in the case of judgments of intelligence, it appears a justifiable preliminary hypothesis that the concept of parolability is as objectively valid as is that of intelligence, and that it is equally susceptible to quantitative measurement.

Coefficients of partial correlation among X, Y and Z are as follows:

$$r_{XY.Z} = +0.5306 \quad r_{XZ.Y} = +0.1318 \quad r_{YZ.X} = +0.3563$$

These partial coefficients show quite clearly the contributions brought by each of the three investigators. Partialling out those elements in the correlation between X and Y upon which Z also based his judgment affects the coefficient but slightly. Apparently, then, those elements common to X and Y but not shared by Z are much more important than those elements common to all three. When the elements upon which Y bases his judgment are held constant, however, the case is quite different, for when these elements are excluded, almost nothing remains common to X and Z. Finally, when the elements upon which X's judgments are based are held constant, the result is intermediate between the first two cases: roughly a third of the correlation existing between Y and Z is seen to depend upon these elements. From these facts it may be inferred that Y bases his judgments upon factors much more important in the total complex than those of his co-workers; Z brings almost nothing to the

combination already represented by X and Y. Y, then, appears as the most accurate estimator, and the XY combination as the most valid basis for further work, as, indeed, it is shown to be by its zero order coefficient.

This result is confirmed even more forcefully by the fact that the coefficient of multiple correlation  $r_{X,YZ}$  is but 0.6320 in comparison with  $r_{XY}=0.6236$ . By this test, too, Z brings almost nothing new to the XY combination.

Although it is obvious that no conclusion can be drawn from only three coefficients, this variation may tend to substantiate the *a priori* hypothesis that the degree of association among the estimates of different observers will tend to vary directly with the degree of acquaintanceship between them. As already stated, Y and Z had been friends for five years, X and Z for one year. X and Y, on the other hand, had been close friends for fourteen years.

"Hunches," then, have been shown to exhibit a very considerable degree of internal consistency. The question now arises whether it is possible to apply to these predictions any criterion of validity. As explained above, the comparison between such predictions and actual outcome on parole, which would, of course, constitute the ultimate criterion of validity, is impossible before the expiration of a number of years during which all the subjects would be paroled and serve three years on parole. A possible substitute lies in the comparison of the "hunch" scores with the scores of the same individuals on the Burgess system. The Burgess scores cannot, of course, be considered to constitute a criterion of validity in any strict sense whatsoever. Indeed, the belief that the Burgess factors can be very considerably improved alone justifies the present research. But the Burgess scores are, at least, entirely independent of the "hunch" judgments and in this sense furnish an objective criterion with which the latter may be compared. Accordingly, the "hunch" judgments of each investigator were correlated with the Burgess scores of the individuals estimated, with the following results:

$$\begin{array}{ll} r_{XB} = +0.5111 \pm \text{P.E.} = 0.0407 & r_{YB} = +0.5687 \pm \text{P.E.} = 0.0372 \\ r_{ZB} = +0.3573 \pm \text{P.E.} = 0.0637 & r_{WB} = +0.3383 \pm \text{P.E.} = 0.0504 \end{array}$$

These coefficients of correlation between the scores of the four investigators and the Burgess scores of the subjects, with their critical ratios of from 6 to 19, demonstrate once more that the quality judged, parolability, does very definitely lend itself to measurement. These results also confirm the belief that Y is the best estimator, X next, and W and Z nearly equal and not nearly so accurate as the first two. The Burgess scores of the 150 subjects are given in Table A2 (Appendix A).

### *Summary and Conclusions*

(1) The correlation between the predictions of investigators X and Y, expressed by the coefficient  $r = +0.6236 \pm 0.0345$  gives presumptive

evidence that parolability is at least as accurately measurable by estimates as is intelligence.

(2) Introduction of investigators W and Z, whose estimates are correlated with each other and with those of X and Y from  $+0.34$  to  $+0.54$ , confirms this inference and obviates the possibility that the first correlation was due to "like-mindedness" of X and Y.

(3) Partial and multiple correlation-coefficients demonstrate that W and Z bring little to the group judgment which is not already contained in the "hunches" of X and Y.

(4) Comparison of the estimates of the four investigators with the Burgess scores of the same subjects yields coefficients from  $+0.34$  to  $+0.58$ . By this test, also, X and Y are shown to be much more accurate estimators than W or Z.

## OF WHAT DO "HUNCHES" CONSIST?

### III

ANALYSIS of the concept of "hunches" reveals that they are complex. In common with subjective judgments on qualities such as sportsmanship, æsthetic taste, etc., estimates as to parolability must rest ultimately upon individual experiences which give rise, in the aggregate, to a more or less well-defined body of opinion. Most of us, perhaps, if asked point-blank why we consider A a "better sport" than B, would be hard put to it to answer intelligently. We are conscious, perhaps, of a very decided opinion, but it may be very difficult to support this opinion on the spot with convincing reasons. The occasion when A behaved with such beautiful modesty after winning the tennis trophy, or the time that B broke his putter in a fit of pique after missing an easy putt, may not be recalled easily. Moreover, the opinion may rest on experiences very much more subtle than these: a facial expression, a tone of voice or a choice of words in making a statement. Perhaps the traces in the memory left by the individual experiences which underlie the opinion have become very faint. Nevertheless, reflection, or in extreme cases, psychoanalysis, invariably reveals perfectly definite past experiences upon which the judgment rests. Estimates as to parolability cannot have a different origin.

The problem lies in isolating the unit characters which combine to form the concept of parolability. Just what factors constitute inmates' "hunches," and just what degree of importance attaches to each?

The method employed for the isolation and identification of the unit characters underlying "hunches" may be termed the "discussion method." Since it had been shown, as indicated above, that practically all the elements occurring in the estimates of any of the observers were to be found in the judgments of X and Y, the latter alone were analyzed. X and Y proceeded to discuss at very great length each of the one hundred fifty cases which they had previously scored. The discussion in each case proceeded as follows: the scoring assigned by each investigator in a given case was looked up and the two results compared. Each investigator informally analyzed his reasons for the particular mark he had given and attempted to justify his judgment. A careful stenographic record was kept of this discussion.

Thus, for instance, Subject number 1 was scored 65% by X and 75% by Y. The discussion began as follows:



## Predicting Criminality

Y: "I think number 1 is a fairly good risk chiefly because of his willingness to work. You know he has been assigned to the greenhouse for the past two years and I've seen him do some really strenuous manual labor. He doesn't "beef" about it, either. He "holds up his end" and turns out more than his share of the work."

X: "Yes, but have you stopped to consider how fond he is of clothes? Even here in prison he is not only meticulous in such matters as the crease in his trousers, but goes rather to extremes in flashiness. Why, if he sees someone with a new kind of sweater, he can't sleep until he has one just like it. Then, how often have you heard him brag about what a "snappy dresser" he was outside. Now his earning capacity is obviously very limited. He'll be doing very well indeed if he can earn from \$15 to \$20 a week. You can't buy many \$100 suits nor many \$5 neckties on that amount of money."

Y: "That's certainly true, and another thing against him is his attitude toward his family. His parents are poor and find it difficult to get down here to see him. They write him fairly regularly, though. But if two or three successive letters come from home and no money is enclosed he "beefs" about it and is inclined to sulk and make unkind remarks about his folks. The same is true when his visits don't come as often as he thinks they should. All in all he seems to care for his folks chiefly for what he can get out of them."

Such discussions were continued in every case until both X and Y were entirely sure that they had stated their positions completely. The discussions averaged from an hour to two hours daily and continued for nearly two months before all 150 cases had been thoroughly discussed. In all, 42 unit factors are contained in the transcript of the proceedings. A list of these factors together with their definitions is contained in Table IV below. This table contains names and definitions of the factors resulting from a synthesis of the individual definitions of X and Y, agreed to by both observers after full discussion.

TABLE IV  
DEFINITIONS OF ORIGINAL 42 "HUNCH" FACTORS  
AS FORMULATED BY OBSERVERS X AND Y

1. EXCESSIVE INTEREST IN CLOTHES. Minus.

By this is intended an inordinate interest in and desire for clothes which may cause subject to spend more money than he can earn honestly.

2. STUPIDITY. Plus or Minus.

This refers to general intelligence, but is scored only in cases near one end or the other of the scale. Further, the normal expectancy of the social group is taken into consideration. Thus, a Negro would not be penalized unless he were stupid to the extent of being feeble-minded, whereas a white man from

TABLE IV—*Continued*

a city district would be expected to have a somewhat higher intelligence quotient. It was also used very sparingly as a plus factor to indicate extremely high intelligence, but not necessarily number 20, Shrewdness.

3. TIMIDITY. Plus or Minus.

This is a plus factor in those cases in which a man's timidity and fear of consequences prevent him from committing a crime which he might otherwise commit. It is different from number 10, Learned Lesson, in that reasoning power or the logic of social behavior has no bearing on the situation. A person might logically believe that breaking the law was a losing game and might therefore decide he was no longer going to do so, but the person who is "scared" does not necessarily apply logic, but is prevented from criminal endeavor by his fear of punishment. It is a negative factor in those cases where lack of fear ceases to be courage and becomes foolhardiness.

4. INDUSTRY. Plus.

This is an estimate of the individual's *desire* to work, regardless of ability. A man known to be industrious is more likely to succeed on parole because of the greater probability of holding a job. An extremely lazy man, on the other hand, will find difficulty in keeping a job.

5. SEX-CRAVING. Minus.

Used only in those cases in which the individual's interest in women is extraordinarily great, so that it becomes probable that he will live beyond his means for this reason.

6. WHITE LIGHTS. Minus.

"White lights" is a general term intended to cover a craving for the gay life of a city or small town: cabarets, dance-halls, saloons, etc. It is a negative factor in the large number of cases in which it is felt that criminal activities were indulged in primarily to supply funds for a "fast" life.

7. FAMILY BROKEN. Minus.

Death of one parent or separation of the parents before the age of puberty is considered "Family Broken." If the parent died when the individual was very young, and if the remaining parent married happily and the foster parent was good to the individual, this should not be considered "Family Broken."

8. LACK OF LOVE FOR RELATIVES. Minus.

Used both where subject actively dislikes his relatives and where he merely lacks familial affection, as in cases where he is interested merely in the money sent him or the efforts made to secure his release. A quarrel with one brother or sister would not constitute "lack of love," but a quarrel with two members would very probably cause enough friction to warrant its being considered as a minus factor.

9. FAMILY TIES. Plus.

This is a plus factor indicating strong affection for members of the family. Love and respect for a member of the family might easily make the difference between crime and an honest life.

## Predicting Criminality

TABLE IV—*Continued*

## 10. LEARNED LESSON. Plus or Minus.

Perhaps the most important single factor. Scored plus if it is believed that prison experience has definitely brought subject to the determination not to break the law. Scored minus only in those cases in which it is believed that prison experience has had no effect at all or a deleterious effect. Otherwise left blank.

This factor is judged entirely on the practical side: whether an individual has morally determined that he will or will not break the law is unimportant in comparison with his final decision based upon his entire outlook. Thus, an individual might have no scruples against stealing, but if he had thoroughly made up his mind that stealing was a losing proposition and had definitely decided not to steal, that individual would be a good risk on parole.

The importance of this factor is hardly to be overestimated. If it could be scored accurately on the basis of an attitude test or otherwise, it might easily transcend in importance all the remaining factors.

## 11. PREVIOUS HOODLUM ACTIVITIES. Minus.

Implies either (1) repeated delinquencies of a minor character *with a group*, or (2) one or more felonies.

## 12. RECIDIVISM. Minus.

Any previous commitment to either juvenile or penal institutions or jail, or a police record of five or more arrests. The only exceptions would be sentences for truancy, speeding, or something of an extremely minor nature. Whether a sentence for disorderly conduct would count as "recidivism" would depend upon the nature of the offense and the place where it occurred.

## 13. RURAL TYPE. Plus.

If a man is distinctly not a city type, his chances on parole are considered better. This factor does not depend on community from which subject comes. Many cases from small towns do not classify as "rural type," and occasionally a man from Chicago does so classify.

## 14. PREVIOUS WORK RECORD. Plus.

This is a positive factor in those cases in which subject has worked for a considerable fraction of his adult life. Care should be taken, however, to examine the legitimacy of the employment. For example, a job with the "Racing Form" would hardly constitute a good working record.

## 15. HAPPILY MARRIED. Plus.

Considered a plus factor in cases where the subject is definitely believed to be "in love" with his wife, or where it is believed that she will be instrumental in keeping him from violation of parole.

## 16. CHARACTER. Plus or Minus.

The separation here is between firmness and decision as against weakness or extreme suggestibility. Thus, if an individual demonstrates that he is able to follow his own dictates and is not easily deterred, he is credited with strength of character. Certain of his actions may also demonstrate strength

TABLE IV—*Continued*

of character, such as loyalty to a friend, etc. Whether this strength of character is directed into social or antisocial channels is not considered under this factor.

## 17. PLEASING PERSONALITY. Plus.

Reserved for those cases where subject has an extremely ingratiating manner, which results in his easy acquisition of friendly relations with others and thus aids him in securing employment or in extricating himself from difficulties.

## 18. SHARP PRACTICES. Minus.

This implies a definite character trait: "to beat the other fellow on any kind of bargain, deal, or business venture." Although the inmate who is a prison "peddler" does not *per se* fall into this category, he is considered more likely to scheme illegally.

## 19. EMOTIONAL INSTABILITY. Minus.

A negative factor in the case of individuals who are subject to great variations in emotional outlook. A man who is exuberant one day and depressed the next is more likely to participate in violations of the law under the influence of either mood than is an individual who proceeds "on an even keel."

## 20. SHREWDNESS. Plus.

Restricted to that type of shrewdness, largely the result of experience, which will enable the subject to outwit the police.

## 21. GOOD JOB IN PRISON. Minus.

This was a factor considered only in rare cases where there seemed to be grounds for belief that the individual had led such an easy life in prison that lack of fear of returning to prison could be considered in determining the individual's parole risk.

## 22. GANGSTER. Minus.

A negative factor in cases where the subject is definitely a member of a criminal group, or where group associations are believed to have influenced his act. One evidence of this would be that he had two or more co-defendants.

## 23. CRITICAL QUALITIES. Plus.

Critical discrimination in choice of friends is considered favorable. Absolute lack of discrimination is negative.

## 24. SELFISHNESS. Plus.

Considered favorable because a selfish individual is protected against that class of criminal acts committed for the sake of another—for friendship, or in order to keep caste. He will probably weigh the consequences for himself more carefully than the altruist.

## 25. TRADE. Plus.

As differentiated from number 34, Working Ability, trade was considered as anything that the prisoner had learned *in prison* that would enable him to

TABLE IV—*Continued*

secure steady useful employment. Care should be taken in scoring this factor—assignment to the barber line does not mean that the individual would be able to hold a position in an outside barber shop.

26. CONCEIT. Minus.

A negative factor when present in a degree appreciably above the normal both because it may lead to difficulties with others and because it may induce the subject to overestimate his cleverness in avoiding detection, and therefore be instrumental in causing him to break the law.

27. SELF-RESPECT. Plus.

On discussion and mature consideration found to contain nothing not already included under number 16, Character. Accordingly to be omitted from the list.

28. PHLEGMATICNESS. Plus.

A person who invariably maintained a balanced attitude towards others and towards events in his own life was considered phlegmatic. Such an individual is less likely to become excited or emotionally upset by adversity and act without due reflection. He is also less likely to be led into the schemes of others because of uncritical over-enthusiasm.

This factor is the direct opposite of number 19, Emotional Instability, and the two might well be combined into a single factor, "Emotional Nature—Plus or Minus."

29. ARGUMENTATIVENESS. Minus.

This factor was considered only when the individual persistently engaged in arguments; in other words, seemed to enjoy arguing. It was felt that such an individual would sooner or later strike difficulties on account of this trait. He might argue with his superiors and lose his job, or he might have an argument that would result in blows being struck and therefore get into trouble with the police.

30. OUTSIDE ENVIRONMENT. Plus or Minus.

A good home, respectable family, good upbringing are factors which promote the chances of success. Neighborhood, character of associates, etc., are also considered because there is believed to be a pronounced tendency to adopt the *mores* of the immediate social group.

A person's environment throughout his life is to be judged in this connection, but obviously the years immediately preceding his arrest carry more weight than any other period. For example, an individual might come from a small town where he had lived in excellent rural society; if at the age of thirty he moved to the city and for three years lived in an antisocial neighborhood, this latter period would over-balance the former. But the early environment would have to be considered, because there might be a good chance that the individual would return, if not to his particular small town, then to some small town.

TABLE IV—*Continued*

## 31. MINOR RACKETEERING. Minus.

This term covers the whole field of shady transactions from "roping suckers" at carnivals to petty con games, whether just inside or outside the law. A typical example is furnished by the race-track tout. Any series of minor thefts or minor criminal endeavor would also be considered under this heading. It is used for those individuals for whom number 11, Previous Hoodlum Activities, is considered too strong, and who yet are believed to have at least "bent" the law, or whose infractions, though present, are less serious than crimes of violence.

## 32. LOVE OF COMFORT. Minus.

Used only in cases where the individual's dependence upon the creature comforts of the home is extraordinarily great, and where it is believed that he may violate the law in order to secure or retain possession of them.

## 33. AGE. Plus or Minus.

Whether the individual's age is a favorable factor or the reverse is believed to depend not so much upon his years alone as upon the relation existing between his age and his record. Ages above thirty-five are considered favorable in the case of first offenders, and the degree of favorableness is believed to increase steadily, but the exact opposite is true of recidivists on the theory that the individual is too old to change his ways.

As applied to men under thirty-five the factor is not scored except in cases where the total length of the criminal record constitutes approximately one-third of his age, and here is a minus factor.

## 34. WORKING ABILITY. Plus or Minus.

Two things are considered under this heading—what kinds of work the individual could perform, and his willingness to accept employment of the kind he is capable of discharging. For example, a Negro who is fairly handy and capable (although having no very special abilities) would receive a plus, in the belief that he would be willing to take and able to keep a job as porter or dish-washer; a white man who has a rather good mind but no special abilities is penalized on the ground that he would not be willing for long to work in a menial capacity and that he would be unable to secure the kind of employment he wants.

## 35. BREAK IN CRIMINAL RECORD. Plus.

Where the individual has a previous criminal record, but succeeded in avoiding arrest for a considerable period prior to his present conviction, it is believed that he has demonstrated some ability to re-orient himself, and is more likely to succeed if given another opportunity. The effect of this factor is to mitigate the outright "minus" of number 12, Recidivism, in a few cases. No definite number of years has been selected as constituting a "break in record," because four years in the life of a youth of twenty represents as much of a break as ten years in the life of a man of forty-five. Perhaps the figure representing one-fifth of the present age of the individual could be satisfactorily used as a criterion.

TABLE IV—*Continued*

## 36. RELIGIOSITY. Plus.

Religiosity is used only where the individual manifests such earnest and sincere religious convictions that this factor is believed to decrease the probability of his return to criminal pursuits. In some cases, this attitude is the direct result of close contact with some religious leader of exceptionally compelling personality. Great care must be exercised in scoring this factor because attendance at religious services is an almost universal phenomenon in prison and the outward trappings by no means prove the existence of a genuine religious belief.

## 37. WANDERLUST. Minus.

A large number of the individuals studied manifested a very strong disinclination to settle permanently in any community. They seem constantly to be pulling up stakes and moving. This is believed to decrease the chances of a permanent and successful readjustment.

## 38. ATTITUDE TOWARD FUTURE. Plus or Minus.

It is believed that individuals can be roughly divided into two groups with respect to their attitude toward the future: those who almost never think more than three months ahead, and those who are inclined to consider their problems in relation to the next five or ten years. The latter are less likely to be overcome by purely temporary difficulties, and therefore have a greater chance of success. Of course, there exists a large borderline class which belongs in neither division.

## 39. LENGTH OF TIME TO BE SERVED. Plus or Minus.

In certain cases the fact that an individual has a life sentence facing him if he violates parole is thought to be a plus factor. It is not considered when the individual is quite obviously one who plans only for the moment. On the other hand, hope that he may not be retried, but merely be declared a violator, may cause an individual with little time left to take chances.

## 40. TENDENCY TO BE AN AGITATOR. Minus.

This factor was used when the individual was of the type that continually interferes and interests himself in the affairs of others, and even actively tries to influence the conduct of others.

## 41. CRIMINAL ACTIVITY IN FAMILY. Minus.

It is believed that individuals belonging to families of which one or more immediate members have criminal records are more likely to violate parole. Whether the force of example enters into this opinion, or whether the factor is merely evidential of an unfavorable social background is questionable.

## 42. PHYSICAL DEFECT. Minus.

Any major physical defect is a handicap under any circumstances, and may easily be the deciding factor in the individual's ability to succeed in economic competition. Examples are extremely bad eyesight, epilepsy, loss of a limb, etc.

Two major claims are advanced for this list of 42 basic factors: (1) that they are determined by methods as nearly completely objective as is possible in the premises, and (2) that they are exhaustive in the sense that they include all conscious elements entering into inmates' estimates.

The claim of objectivity is based upon the following considerations: the discussion was at no time considered by X and Y to be exclusively nor even primarily held with a view to isolating the factors as such. That is, it was not pointed at this goal. The discussion proceeded in a natural, informal manner; one point brought up another; at times it even grew heated when a decided difference of opinion was encountered. What better method could be devised for bringing out all the reasons held consciously by either investigator than this very necessity of defending his view? It is roughly analogous to the trial of a cause in a court of law, with the removal, however, of the restrictions imposed by the rules of evidence. When the stenographic record had been transcribed, it became possible to count the occurrences of each concept as accurately as peas could be counted in a pod. It is understood, of course, that the method has two limitations: it shares the degree of subjectivity which is unavoidable in any form of expression which involves verbal symbolism, and it can reveal only those elements in the judgments of which the judge is conscious. If there exist, also, subconscious elements, they will emerge only insofar as the "cathartic method" may be expected to bring them into the light. Both limitations appear relatively unimportant.

The argument for the exhaustiveness of the 42 factors is completely objective. It rests upon the rate of emergence of new factors as the discussion progresses. Thus, 27 factors had been listed by the time the sixth case had been completed; factors 28 to 31 emerged in discussion of the seventh case; factor 32 in the tenth case; factors 33 and 34 in the thirteenth case; factor 35 in the fifteenth case; factors 36 and 37 in the twenty-second case; factors 38 to 40 in the twenty-fifth case; factor 41 in the sixty-ninth case; and factor 42 in the hundred-second case. During equally careful discussion of the remaining 48 cases no new factor was isolated. Figure 2 represents graphically the rate of emergence of the factors.

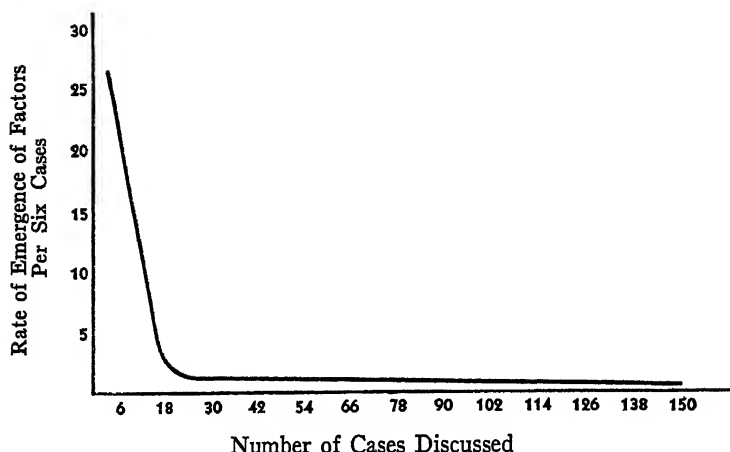
Since no new factors were discovered during discussion of the last 48 cases, but one factor in the last 81 cases, and but two factors in the last 125 cases, whereas the first 25 cases had given rise to 40 factors, it is evident that any new factors which might have been discovered if the discussion had continued to a thousand cases, would necessarily have been in the nature of residuals. They could have no practical importance for the reasons that either they are so intrinsically unimportant as to have escaped notice during intensive discussion of 150 cases, or they are so rare as not to have appeared in the entire sample of 150 cases. In either event they may safely be disregarded.



## Predicting Criminality

Figure 2

RATE OF EMERGENCE OF NEW FACTORS DURING DISCUSSION OF 150  
SUBJECTS BY INVESTIGATORS X AND Y



It will be noted at once that certain obviously important extrinsic or general factors are omitted from the list. Such, for example, are economic conditions prevalent at time of parole, quality of parole supervision, and the like. The omission is deliberate. First, these factors themselves are highly variable and are not susceptible to accurate prediction. Second, they are so extremely general, and so completely extrinsic to the individual on parole that they may, on the whole, be considered to affect the entire group on parole more or less to the same degree. Thus, a period of economic depression may affect all on parole adversely and increase the rate of violation appreciably. On the whole, however, it should leave unaltered the *relative* likelihood of success of the various individuals in the group. This is, of course, not strictly true. The individual economic status of the subjects, their character-traits and the like will unquestionably cause general economic stress to affect some individuals much more strongly than others. Such individual differences are, so far as is possible, recognized and given their due weight in the list of 42 factors. General environmental factors, then, are for the purposes of this investigation treated as constants.

One other class of factors, though environmental in nature, is specific rather than general. Such are job on parole, parole community, parole neighborhood, etc. These, too, have been omitted from consideration on practical grounds. Two years' experience has demonstrated that infor-

mation on such factors cannot be secured in advance of parole with any degree of accuracy. Although it is a necessary condition for release on parole in most cases that the man paroled have the promise of a job, such jobs are very frequently secured in the interval between hearing before the Parole Board and actual release. Even in cases where the inmate presents written promises of employment at the time of his hearing, he very frequently changes his mind and takes some other position when actually released, or at most, remains on his original job for but a few weeks before securing permission to change his employment. Information as to where the man paroled intends to live is equally difficult to secure in many cases. Except where the inmate has a family and intends to live at home, he generally is not certain where he will reside, but determines this when actually released.

The exhaustiveness of the factors enumerated differentiates the present method of determining parolability from methods previously in use. Investigators working from institutional records, as did Warner,<sup>1</sup> Burgess,<sup>2</sup> Tibbitts,<sup>3</sup> and Vold,<sup>4</sup> are necessarily limited to data preserved in the files and cannot employ factors on which information is not available. The Gluecks,<sup>5</sup> although not limited by this circumstance, seem to have been guided by a *a priori* considerations in their choice of factors studied, and nowhere claim exhaustiveness for their series.

The 42 factors isolated by the discussion method, then, fulfill the requirements of objectivity and exhaustiveness. Subsequent analysis revealed that they would not in their original form answer the requirements of mathematical analysis. This shortcoming was due, in the main, to their heterogeneity and to the fact that they were not universally applicable in the sense that every subject could be scored on every factor.

The factors, in the form in which they were originally defined, were dissimilar in several respects:

(1) Some factors were single-signed and had no opposites in the table. Typical examples are Factor number 1, Excessive Interest in Clothes, which is always a minus factor, no plus being given to those subjects who did not manifest such an interest; and Factor number 35, Break in Criminal Record, which is always a plus factor, but is scored only in the cases of subjects with previous criminal records who had made a successful adjustment to life in free society over a considerable period of time preceding the present incarceration. Obviously, a subject could not have an "unbreak" in criminal record.

<sup>1</sup> Warner, Sam B.: "Factors Determining Parole from the Massachusetts Reformatory," *Journal of Crim. Law and Crim.*, 14:172-207, 1923.

<sup>2</sup> Bruce, Harno, Burgess, Landesco: *Parole and the Indeterminate Sentence*.

<sup>3</sup> Tibbitts, Clark: "Success or Failure on Parole Can be Predicted: etc.," *Journal of Crim. Law and Crim.*, 22:11-50, 1931.

<sup>4</sup> Vold, George B.: *Prediction Methods and Parole*.

<sup>5</sup> Glueck, Sheldon and Eleanor T.: *500 Criminal Careers; One Thousand Juvenile Delinquents; 500 Delinquent Women*.

(2) A second group of factors is also single-signed, but the opposite of the factor under consideration also appears in the list. An example of this class is Factor number 19, Emotional Instability, a negative factor which has an exact opposite in the positive Factor number 28, Phlegmaticness.

(3) Finally, there occurs a considerable number of factors which are inherently double-signed. Thus, for example, Factor number 2, Stupidity, is scored plus in cases of exceptionally high intelligence, minus in cases of exceptionally low intelligence, and is left blank in the cases of individuals falling within the range of plus or minus one standard deviation from the general mean. A similar example is afforded by Factor number 3, Timidity. Exceptionally timid subjects are scored plus; foolhardy subjects are scored minus; but the large majority of the subjects are not scored at all.

In addition to this heterogeneity inherent in the concepts as originally formulated, a further difficulty arose because certain factors, although based on very sharply defined concepts and considered of vital importance in a few cases, possessed a very narrow range of applicability. Such are Factors number 5, Sex-Craving; number 17, Pleasing Personality; number 20, Shrewdness; etc., which, although extremely important in shaping the total estimate of parolability in the few cases in which they apply, were scored in relatively very few cases in the group.

To circumvent these difficulties and to render the factors susceptible to mathematical manipulation, the original 42 factors were analyzed and subdivided in such a manner that every double-signed factor gave rise to two opposite single-signed factors. Further, such of the factors as were of positive sign were retained in their original form; those which had originally been negative were transformed into positive factors by prefixing the words "Absence of" to the original denomination. In the case of factors which had originally been double-signed, this process involved, of course, the retention of the original plus factor and the manufacture of a correlative by prefixing "Absence of" to the opposite of the concept involved in the original factor. Thus, for example, Factor number 2, Stupidity, becomes, after subdivision, Factor A, Intelligence, and Factor B, Absence of Stupidity, both of which are favorable.

Let us consider the effect of such subdivision upon the scoring system. For factors included in subdivision (1) above, the relative scores remain unchanged. Thus, under the first classification a very small number of individuals had been scored minus because of possession of Factor number 1, Excessive Interest in Clothes. All except these few had not been scored in any manner. The effect, then, was to introduce a dichotomy into two numerically very unequal groups, penalizing a very few individuals in comparison to the remainder. The procedure outlined above results in the transformation of factors such as this into their opposites: in this

case, into Absence of Inordinate Desire for Clothes. Under this scoring method, the same individuals who before were not scored would now receive a plus because they possessed the absence of an inordinate desire for clothes, whereas the few individuals who under the old system had been scored minus would, under this method as well, receive a minus because they did not possess the absence of the desire mentioned.

The factors contained in subdivision (2) occasion even less difficulty. For them the procedure consists in retention of the favorable member of the original pair and the transformation of the unfavorable member into its opposite. Thus, Factor number 19, Emotional Instability, becomes in the revised classification Absence of Emotional Instability, and Factor number 28, Phlegmaticness, is retained without change. Let us consider three hypothetical subjects, A, B and C. Let us suppose that A is phlegmatic, B is emotionally unstable, and C is neither the one nor the other. The scoring under the original classification would be:

Subject	EMOTIONAL INSTABILITY	PHLEGMATICNESS	Total Score
A	Blank	Plus	Plus 1
B	Minus	Blank	Minus 1
C	Blank	Blank	Zero

When, now, the revised classification is adopted, the same individuals would be scored as follows:

Subject	ABSENCE OF EMOTIONAL INSTABILITY	PHLEGMATICNESS	Total Score
A	Plus	Plus	Plus 2
B	Minus	Minus	Minus 2
C	Plus	Minus	Zero

The result here, then, also is merely to multiply the number expressing the total score by the factor 2. Since the scores are not as yet on any absolute scale, but represent merely relative standing, it is obvious that no change in final score is introduced by the change of systems of classification.

The result is identical, also, in the case of factors falling in subdivision (3). Here the original double-signed factor is divided into two independent factors, the plus side of the original factor being retained, the minus side being transformed into the negative of the opposite of the first. Thus, Factor number 2, Stupidity, becomes Intelligence and Absence of Stupidity, both favorable factors. Let us suppose that subject D is of very superior intelligence, subject E of average intelligence, and subject F of very inferior intelligence. Under the original system, then, the scoring would have been as follows:

Subject	STUPIDITY	Total Score
D	Plus	Plus 1
E	Blank	Zero
F	Minus	Minus 1

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Under the revised classification, this becomes:

Subject	INTELLIGENCE	ABSENCE OF STUPIDITY	Total Score
D	Plus	Plus	Plus 2
E	Minus	Plus	Zero
F	Minus	Minus	Minus 2

As in the previous cases, the effect is merely to multiply the numerical score by the factor 2, leaving the relative scores unchanged.

The only objection to the revised classification seems to lie in some of the rather amazing factor denominations which result from its use. Thus, Absence of Lack of Discrimination is more reminiscent of Choctaw than of standard English! The advantages of the system are that the factors become homogeneous, each being now a single-signed favorable factor and further that every subject may be scored on every factor, thus rendering the obtained scores strictly comparable. A list of the resulting 54 factors, classified into five groups, follows:

TABLE V

## REVISED CLASSIFICATION OF FACTORS

- |  |   |
|--|---|
| <p><b>I. PSYCHOLOGICAL AND PHYSICAL FACTORS</b></p> <ol style="list-style-type: none"> <li>1. Intelligence</li> <li>2. Absence of Stupidity</li> <li>3. Timidity</li> <li>4. Absence of Foolhardiness</li> <li>5. Strength of Character</li> <li>6. Absence of Weakness of Character</li> <li>7. Pleasing Personality</li> <li>8. Phlegmaticness</li> <li>9. Absence of Emotional Instability</li> <li>10. Shrewdness</li> <li>11. Critical Qualities</li> <li>12. Absence of Lack of Discrimination</li> <li>13. Selfishness</li> <li>14. Absence of Altruism</li> <li>15. Lack of Conceit</li> <li>16. Absence of Argumentativeness</li> <li>17. Absence of Love of Comfort</li> <li>18. Religiosity</li> <li>19. Long View of Future</li> <li>20. Absence of Short View of Future</li> <li>21. Absence of Tendency to be an Agitator</li> </ol> | <ol style="list-style-type: none"> <li>22. Learned Lesson</li> <li>23. Absence of Failure to Learn Lesson</li> <li>24. Absence of Sharp Practices</li> <li>25. Absence of Positive Wasserman Reaction</li> <li>26. Absence of Physical Defects</li> </ol> <p><b>II. FACTORS CONNECTED WITH INDUSTRY</b></p> <ol style="list-style-type: none"> <li>27. Industry</li> <li>28. Absence of Laziness</li> <li>29. Previous Work Record</li> <li>30. Trade</li> <li>31. Working Ability</li> <li>32. Absence of Lack of Working Ability</li> </ol> <p><b>III. FACTORS CONNECTED WITH HIGH LIFE</b></p> <ol style="list-style-type: none"> <li>33. Absence of Inordinate Desire for Clothes</li> <li>34. Absence of Sex Craving</li> <li>35. Absence of Desire for White Lights</li> <li>36. Absence of Wanderlust</li> </ol> |
|--|---|

TABLE V—*Continued*

IV. FACTORS CONNECTED WITH FAMILY	V. FACTORS CONNECTED WITH CRIMINAL RECORD
37. Absence of Broken Family	45. Absence of Previous Hoodlum Activities
38. Absence of Lack of Love for Relatives	46. Absence of Recidivism
39. Family Ties	47. Absence of Good Job in Prison
40. Rural Type	48. Absence of Gangster Status
41. Happily Married	49. Absence of Minor Racketeering
42. Good Outside Environment	50. Favorable Age Relation
43. Absence of Bad Outside Environment	51. Absence of Unfavorable Age Relation
44. Absence of Criminality in Family	52. Break in Criminal Record
	53. Long Time to Serve on Maximum X
	54. Absence of Short Time to Serve

A word must be added concerning the end to which these factors are directed. The final goal sought in this investigation was conceived to be an index of the probability of success on parole of inmates. Success on parole, then, must be rigidly and, if possible, objectively defined. For the purposes of this investigation, success on parole is defined as follows: an inmate is counted as a success if

- (a) He does, in fact, receive final discharge from parole;
- (b) The maximum of his sentence is reached and the sentence, therefore, expires before issuance of a warden's warrant charging violation;
- (c) He dies before issuance of such warrant.

He is counted as a failure when he is declared a violator by the Department of Supervision of Parolees and a warden's warrant issues for his arrest, or when he is killed in the commission of an alleged felony. Whether the violator is actually apprehended and returned to the institution is, of course, quite irrelevant.

These criteria are unswervingly adhered to even in cases where to the writer's personal knowledge the equities of the situation are entirely opposed to the legal status of the individual. Thus, for example, an individual who was recently killed in Chicago, presumably by gangsters, is counted as a success in the face of the positive knowledge that he had been operating a handbook, receiving stolen property, and engaging in other felonies. Since, however, he had not been declared a violator at the time of his death, he must be counted as successful on parole under subsection (c).

Conversely, cases are sometimes counted as failures when in the very definite opinion of the writer no actual violation warranting return to the institution has occurred. One individual, for example, when released on

parole returned to the neighborhood where he had lived before incarceration. He was warned by the local police that they would "get" him. After a short period he was charged by the police with participation in a hold-up, arrested, indicted, and brought to trial. The victim of the hold-up had been persuaded to make a wavering identification of the man, but the identification continued unsure throughout the proceedings. The paroled man was defended by the public defender for Cook County. In cross-examining the complaining witness, the defense produced photographs of the defendant and of two of his brothers, all of whom had certain family similarities, and asked the witness to identify the photograph of his assailant. This the witness confessed himself totally unable to do and stated not only that he was unable to choose that one of the three photographs which was a likeness of the robber, but that he was not prepared to swear that he was one of the three.

Because of the testimony of the complaining witness, the judge directed acquittal and the defendant was discharged. The police informed the paroled man that they would "get" him anyhow, took him into custody, filed complaint with the Superintendent of Supervision of Parolees on the same evidence which had resulted in the defendant's acquittal, and on this complaint the man was held to have violated parole and was returned to the penitentiary. Since a warrant issued for the man's arrest and he was returned to the institution, he is, of course, counted as a failure.

Rigid adherence to this criterion obviates any possibility of attempting to arrive at an index of rehabilitation rather than of probability of actual outcome on parole. Indeed, some of the factors contained in the list and which definitely increase the probability of success on parole in the manner defined are morally reprehensible and militate definitely against rehabilitation. Such, for instance, are number 10, Shrewdness, and number 13, Selfishness. By Shrewdness is intended, as explained above, just that particular specialized knowledge of the workings of the police and the courts which sometimes make it possible for a professional offender to avoid arrest or escape conviction by dishonest means. Certainly the possession of such knowledge is not commendable; in fact, its possession is a remarkably good indication that the subject is well versed in the ways of crime and not likely to rehabilitate himself. Yet, since it does, in a few cases, definitely increase the likelihood of final discharge of the offender, it must be considered as a favorable factor in any attempt to estimate that likelihood.

The case is somewhat similar with Selfishness. Although the quality itself may not be ethically desirable, it does in some cases increase the probability of successful outcome on parole under the definition adopted, and therefore must be counted as a positive factor.

When the subdivision of the original 42 factors had been accomplished,

all four investigators, W, X, Y, and Z, regraded the 150 subjects, this time on the basis of each of the 54 factors rather than in total percentage scores. Over six months had elapsed since the original scoring; the new scoring was done entirely without reference to the previous grading; and there is little likelihood that it was influenced to any appreciable degree by the preceding work. The new scores were correlated both with the preceding total scores of the same investigators, yielding a series of coefficients of reliability, and with the scores of each of the other investigators. The resulting coefficients are:

Coefficients of reliability between original "hunch" scoring and scoring on factors by same investigator	Coefficients of correlation between factor scoring of the several investigators
$r_{ww} + .7300 \pm .0261$	$r_{wx} + .7016 \pm .0281$
$r_{xx} + .7788 \pm .0220$	$r_{wy} + .6868 \pm .0300$
$r_{yy} + .8354 \pm .0173$	$r_{xz} + .7841 \pm .0255$
$r_{zz} + .5587 \pm .0518$	

The factor scorings upon which these correlations are based are presented in Table B 1 (Appendix B).

Several inferences may be drawn from the coefficients quoted. The coefficients of reliability once more confirm the opinion, already based upon several considerations, that Y is the most accurate and consistent estimator, that X comes next, and that Z is by far the least accurate of the four. The correlation between his scores by the two methods is, indeed, not so high as any of the intercorrelations between different estimators.

The coefficients of reliability obtained further constitute an unanswerable argument against the objection that the "hunch" method is unreliable because inherently subjective. Tibbitts,<sup>1</sup> working with record material from the official institutional files, finds that the coefficient of reliability between his scoring of 907 men on two occasions a year apart is only  $+ .763 \pm .009$ . In a similar check of the reliability of his own scoring on record material, Vold reports<sup>2</sup> coefficients of reliability of  $+ .607 \pm .065$ ,  $+ .600 \pm .064$  and  $+ .611 \pm .044$ . The coefficients of reliability resulting from the "hunch" method of scoring are very definitely higher than Vold's, and at least equally as high as Tibbitts'. It must be remembered, also, that these coefficients express the relation between "hunch" scoring by two distinct methods rather than of two scorings by one method—a much more rigorous test. The "hunch" method is, then, at least as selfconsistent as the scoring of experienced investigators on the basis of documentary material.

<sup>1</sup> Tibbitts, Clark: "Reliability of Factors Used in Predicting Success or Failure on Parole," *Journal of Crim. Law & Crim.*, 22:844-53, 1932.

<sup>2</sup> Vold, George B.: *Prediction Methods and Parole*, p. 63.



The intercorrelations between the scorings of the 150 subjects by W, X, and Y (the scorings of Z were omitted from further consideration because of the low reliability coefficient in his case), which range from  $+.69$  to  $+.78$ , are considerably higher than those obtained when the total score was assigned without reference to the component elements. This indicates that the isolation of the factors comprising the total scores and their careful individual consideration in assigning a score effectuate a decided advance in accuracy of judgment. The correlations mentioned are higher, also, than the coefficients of reliability found for their scoring on the Burgess system by Tibbitts and Vold.

These intercorrelations once more bear out the beliefs that Y is the most accurate of the estimators and X ranks second in this regard.

### *Summary and Conclusions*

(1) Upon examination, "hunches" or estimates prove to be complex judgments based on a variety of factors. The component unit characters are isolated by the discussion method with the result that 42 factors are identified.

(2) That the 42 factors isolated are exhaustive in the sense that they alone are components of the "hunches" is proved by a study of their rate of emergence in discussion.

(3) Since the 42 factors are heterogeneous and hence do not permit of mathematical manipulation, they are subdivided into 54 single-signed factors, which now permit of the scoring of every subject on every factor.

(4) After a period of more than six months from the original scoring investigators W, X, Y, and Z again scored the original 150 subjects, but this time on the basis of the 54 factors. Coefficients of reliability as between the two methods are found to range from  $+.56$  to  $+.84$ —higher than those found by other investigators on rescoring of documentary material. Intercorrelations between factor scorings of the various investigators range from  $+.69$  to  $+.78$ .

## HOW MAY THE PRESENCE OR ABSENCE OF THE FACTORS BE DETERMINED?

### IV

IT has been shown in Chapter II that inmates' estimates as to parolability possess at least the same degree of validity as do subjective judgments of competent observers as to the intelligence of the subjects judged. In Chapter III, it has been demonstrated that such "hunches" are based exclusively upon 54 component unit factors. The question now arises as to how the presence or absence of these component factors can be determined objectively by an investigator who is not an inmate.

It is obvious that inmates will never sit on Parole Boards, for reasons in addition to the obvious ones which come to mind at once. Relatively few inmates would be capable of passing reasonably accurate judgments on the matters involved, and just those inmates who possessed the ability would refuse point-blank to do so. In penal institutions there exists a very well-defined body of ethics to which all self-respecting inmates adhere rather rigidly. The primary law of this ethical system consists in refusing under any circumstances whatsoever to "squawk," that is, inform. But "squawking" is a term of very wide connotation; it is, perhaps, best defined as the informing of any official of anything whatsoever which might prove detrimental to another inmate. It would devolve upon an adherent of this ethical code, then, to advance a "hunch" of 100% likelihood of success on parole in the case of every inmate he was called on to judge. The alternative is the refusal to offer any judgments whatsoever in particular cases, for if the inmates were willing to hazard judgments in the cases of subjects whose probability of success was high, this would, they feel, by implication give a judgment of little likelihood of success on all cases in which they refused to give an opinion.

All of the inmates who played such a large part in this investigation are strict adherents of the code described. Their intelligence and technical training have already been described; there remains the question of their intellectual integrity. Of this there can be no slightest doubt in the mind of anyone familiar with this research. The writer has been in intimate daily contact with the inmate investigators over a period of twenty months. During this period, he has acquired confidence in and a feeling of reliance upon the inmate staff which could hardly be overstated. In fact, during a twenty-year experience in education and personnel work,

the author has never had contact with a group of men who carried scientific accuracy and scrupulousness to such an almost fanatical extreme as did his present staff. Time and time again the inmates insisted on checks and safeguards which seemed superfluous to the author. Fortunately, however, this question need not be decided on the unsupported testimony of the writer. From the very inception of the research and during its entire development, I have been privileged to have as visitors, critics, and consultants Professors Todd, Byron, Mowrer, and Howard of Northwestern University, Professors Burgess, Sutherland, Thurstone, and Cottrell of the University of Chicago, Professors Gillin and Stauffer of the University of Wisconsin, Professor Franz Exner of the University of Munich, and many others. These authorities in the various fields covered by the research are unanimous in their commendation of the methodology employed and of the ability and scientific integrity of the inmate investigators. Professors Burgess, Sutherland, and Todd<sup>1</sup> are perhaps the most competent critics in the sense that they have been the most frequent visitors to the scene of the work and are most intimately acquainted with its every detail. To this mass of authoritative opinion may be added the opinion of Dr. Kirchwey, quoted above.<sup>2</sup>

The ethical convictions of the inmate investigators made necessary some rather elaborate plans to safeguard the identity of the subjects used for the purpose of the investigation. Once they had been thoroughly convinced of the legitimacy of the motives underlying the research and had firmly embraced the opinion that the result of their efforts might, in time to come, accrue to the benefit of convicts in general, these men were only too eager to give their every service in the cause. They made the stipulation, however, based upon their ethical beliefs, that none of the material must ever be used in any individual case considered; they refused in any sense to sit in judgment upon their fellow-inmates. They were more than eager to place in the writer's hands any and all *group* results arising from the investigation and to forge a general tool which they or others might put into actual application; but their actual opinions and judgments in specific cases they insisted must be considered privileged material. So scrupulous were they in this regard that they manufactured a list of nick-

<sup>1</sup> In a letter to the author dated May 3, 1935, Professor Burgess writes: "From my contact with the study at its inception and in its early stages I believe that effective efforts were made to safeguard the reliability of the procedure and of the data."

Under date of May 1, 1935, Professor Sutherland writes:

"I have been in frequent and intimate contact with the prisoners who have worked under your supervision in the study of parole predictions based on 'hunch data.' No students of criminology anywhere are more critical of their own procedure, more anxious to check the reliability of their data, and more scientific in their attitudes than these prisoners. I have complete confidence in their intellectual integrity."

Professor Todd writes on May 4, 1935:

"So far as I could see it, nowhere along the route could anybody have predicted just how these various correlations would work out. They certainly were not loaded. I share your faith in the integrity of this primary material."

<sup>2</sup> Supra p. 9.

## Determining Presence or Absence of Factors 39

names for the 150 subjects originally graded. All records were made and all conversations were conducted with the use of these nicknames in lieu of the real names of the inmates.

Granting the impossibility of the use of inmates in a judicial capacity in the actual work of parole, of what practical use are the findings reported? If any practical value is to result from this research, some means must be found to objectify the "hunches"—some method must be formulated by which information analogous to that which constitutes the estimates may be obtained by a civilian investigator. Further, since approximately 150 inmates are interviewed each month by the parole board, the method employed must lend itself to group administration. Protracted individual interviews are out of the question. It was to this tremendous problem that the staff next turned its attention.

It was determined to try first the questionnaire method. For this purpose each factor was analyzed into its logical subdivisions. Thus, for example, Factor number 1, Excessive Interest in Clothes, was divided into five sections as follows:

1. Quality of clothes bought
2. Quantity of clothes bought
3. Length of time worn
4. Relation to income
5. Reason for interest in clothes

Each of these five sections was then further analyzed as follows:

1. Quality of clothes bought
  - (a) Exceptionally expensive
  - (b) Normal or average
  - (c) Cheap
  - (d) Color
2. Quantity of clothes bought
  - (a) Excessive
    - i. Suits
    - ii. Shoes
    - iii. Hats
    - iv. Ties
  - (b) Moderate
  - (c) Insufficient
    - i. Because of lack of interest
    - ii. Because of disproportionately large expenditures on some one article

## Predicting Criminality

3. Length of time worn
  - (a) Worn daily including Sunday
  - (b) Sundays only
  - (c) Evenings only
  - (d) Excessively long times
  - (e) Worn only a few times
4. Relation to income
  - (a) Largest single item
  - (b) More or less than 25% of total income
  - (c) Inconsiderable fraction
5. Reason for interest in clothes
  - (a) Interest in clothes themselves
  - (b) For personal satisfaction
  - (c) For business reasons
  - (d) To attract girls

After each factor had been divided and subdivided as closely as seemed feasible, investigators X and W set about formulating as many questions as possible, answerable by "Yes" or "No," bearing on the particular subdivision under consideration. Fine distinctions were drawn and many nearly synonymous questions were included. Inferences were drawn from the existence of each of several possible attitudes upon a given point and questions were based upon these inferences. In every case the aim in view was to direct as many questions as possible toward one single significant fact or attitude: to "star" the significant response as a player at roulette may "star" a number by wagering chips not only upon the number itself but also upon each of the four sides and each of the four corners of the square containing the number. Further, a distinct effort was made to avoid direct questions of such a nature as to betray at once the point toward which they were directed.

The process of framing questions directed at the various subdivisions of the factors continued to the exhaustion-point, i.e., until the point was reached where the investigators were literally unable to formulate another relevant question. From this process emerged 1691 questions, answerable by "Yes" or "No." These questions are listed in factor order in Appendix C. It should be noted, however, that the factor-numbers listed do not correspond with the numbers of the factors in the foregoing list. They represent a revision of the numeration which will be explained later.

When the complete list of questions had been formulated, a questionnaire was composed from them by a scattering process directed to the end that questions dealing with the same factor should not occur together, but should be separated by a considerable interval in the questionnaire. This expedient was adopted chiefly to increase the difficulty of lying con-

sistently in answering the questions. With the 1700 questions arranged without logical sequence, it becomes almost impossible for a subject to lie in his answers without betraying himself. Indeed, a more gruelling cross-examination than that afforded by the questionnaire, especially when administered in four sections separated by a considerable time interval, would be difficult to conceive. To lie successfully a subject would require a tremendously high degree of intelligence, an almost magical intuition into the purpose of each individual question, and the memory of a Thomas Babington Macaulay.

As an additional check upon the veracity of the individual subjects tested a suggestion made by Professor Burgess was adopted. The inmate investigators formulated ten "index questions" in each of which the probably truthful response would be the opposite of the reply dictated by expediency. These questions all deal with matters pertaining specifically to the institution or to prisoners, and on each there is practical unanimity among the inmates, but the true opinion of the inmates is directly at variance with what they conceive to be the proper opinion to express for their own benefit. The ten questions are:

1. Have you ever broken a prison rule?
2. Have you liked every guard and official with whom you have come into contact?
3. Are you guilty of the crime for which you are serving time?
4. Have you ever committed a crime?
5. Do you think all the meals served here are good?
6. Have you more clothes than were legitimately issued to you?
7. If you were warden of the institution, are there any changes you would inaugurate in the running of the institution?
8. Are you in favor of the censoring of reading matter by prison officials?
9. Do you think there are any inmates who wield undue influence with the authorities?
10. Do you think the officials use "rats" in running the institution?

Every inmate or very nearly every inmate has at one time or another broken a prison rule. The infraction may not have been serious, but it would be difficult to find a prisoner who had never talked in the dining-room, never received food other than that served him at the table, never failed to keep step in line while marching, etc., etc. And yet the expedient course from the point of view of the inmate is to deny such infractions.

Probably no inmate believes that all the meals served at the institution are good. Certainly, grumbling about the food constitutes one of the principal items of conversation. And yet no overt criticism is tolerated by the officials. It is considered to their advantage by the inmates to pretend complete submissiveness and satisfaction with existing conditions. Similar reasoning prevails in the remaining cases.

From the responses to the ten index questions, a good measure of the

veracity of the responses can be obtained. It is possible that some inmates may answer at once two or even three of the ten questions truthfully and expediently; to find four or five responses to the advantage of the inmate raises grave doubts as to his veracity; and six or more expedient answers convict the subject almost positively of mendacity.

The questions are carefully concealed within the first ten pages of the questionnaire, one on each page; and they are, of course, in no wise designated nor set off from the remaining questions. Actual tests of questionnaires on the basis of replies to the index-questions demonstrated that it was easily feasible to divide the finished questionnaires into three groups: (a) those in which the replies were obviously truthful, (b) those in which the replies were obviously mendacious and (c) those in which further examination on the basis of internal consistency, etc., was required to decide the matter.

A questionnaire, however, even so detailed and exhaustive a questionnaire as that described, is of little value in the absence of some standard by which the responses can be evaluated. The establishment of such a norm presented one of the greatest technical difficulties in the present case. The matter is roughly analogous to the situation of a man who wants to build a house. One of the essential requirements is a yardstick or other measuring device; but suppose that a cosmic cataclysm had destroyed all measuring devices in the world, and further that there lived in the vicinity some sixty men who had had years of experience as carpenters. If the builder were to request each of these sixty carpenters in turn to indicate his estimate of a length of one foot, it is likely that no single one of them would be exactly accurate in his estimate. It is also extremely probable, however, that if the mean value of all sixty estimates were calculated, it would be found to differ very little from the true value of a foot.

A somewhat similar procedure was adopted in the present case. The inmate investigators secured the active cooperation of sixty-four other inmates. It was explained to these sixty-four men that the research might benefit generations of convicts yet unborn. The inmate investigators pointed out to these men that penal methods had undergone a very decided amelioration during the past two centuries. They described graphically and in harrowing detail the dark, wet, vermin-infested dungeons-keeps of the past and pointed out the improvement in living conditions in prisons. These improvements, they asserted, were not won in a single coup; rather they represented the culmination of a long, slow development consisting of almost infinitesimally small individual steps. They spoke, further, of the building of coral reefs by the age-long accretion of the tiny shells of individual animalcules. One individual coral animalcule, considered alone, is insignificant, but without the individual shells there would be no reef. This research, they said, could not be expected to revo-

lutionize procedure in parole prediction overnight; it could, and they hoped it would, become one tiny step in the indefinitely long line of development leading to improved conditions. The response to this line of reasoning was gratifying.

Further, the volunteer subjects were given the solemn assurance of the investigators that their anonymity would be zealously guarded. No official, no one, in fact, except the inmate investigators themselves, would ever see the answers of the individual subjects and know whose answers they were. Only inmates who were well enough acquainted with the investigators to accept this assurance without reservation were solicited to join in the undertaking. Fortunately, investigators W, X, and Y, who managed this portion of the investigation, are all extremely well and favorably known to the inmate population in general. Specifically, they are known positively to be "right guys," i.e., adherents of the ethical code described above, and men whose pledged word is not broken.

It was further explained to the sixty-four members of the "Truth Group," as it was called, that if they began the experiment at all they must stand ready to answer all the questions and answer truthfully. The presence in the group of even one man who did not tell the truth, they were told, would vitiate the entire investigation.

Not every inmate who was approached with the request that he serve as an experimental subject consented. Some frankly stated that they were unwilling to commit themselves to answer questions truthfully, and that rather than fail to do so they preferred not to become members of the group. Others declined less politely. No effort was made to over-persuade any prospective subject, for it was felt that inclusion of men not really willing to cooperate might introduce an element of deceit.

With the Truth Group as finally constituted, a great many considerations combine to yield the conclusion that conscious deceit was decreased to an irreducible minimum. These considerations, which will be described more fully below, include the nature of the subjects, the circumstances under which the questionnaire was administered, the reputation among the inmates of the inmate investigators, the pledges of anonymity given the subjects, the actual responses made to the index questions, the internal consistency of the questionnaires when filled out, and numerous casual conversations with individual Truth Group members after completion of the test at times when they were not on their guard.

The administration of the 1700-question questionnaire to the Truth Group constitutes, perhaps, the most nearly unique feature of this research. This is true for two major reasons:

- (1) The experiment is believed to be irreproducible under other circumstances. Unless a sociologist were willing to be incarcerated ten years for the commission of a felony and during his incarceration subscribe entirely to the "hoodlum" ethical code, it would be totally impossible for



him to secure that degree of *rapprochement* with other inmates which, alone, could validate his results. On the other hand, it is difficult to find *bona fide* convicts who combine with the necessary intramural reputation the intellectual integrity, the tact, and the scientific training which are requisite in this situation. It is upon the uniqueness of the inmate staff that the uniqueness of the experiment is posited.

(2) It is not usual in such research to "test a test." Ordinarily, in the use of the questionnaire method, the formulation of the questionnaire represents the final step. This is not the case in this investigation. The 1700-question questionnaire was administered to the Truth Group and to other control groups for the very definite purpose of determining objectively which questions were most highly significant, least ambiguous, least likely to be lied to, and, in general, best adapted to the end of securing the desired information. From the outset it was clearly understood that inmates could not be expected to spend the major portion of their minimum sentences answering any such enormous number of questions. The questionnaire in this form was administered very definitely for the purpose of determining from the facts themselves which were the "best" questions.

### *Summary and Conclusions*

(1) The practical objections to the use of inmates in a judicial capacity and their unwillingness so to act render necessary the formulation of an objective method whereby a civilian investigator may obtain information approximating that constituting "hunches." Practical considerations also make it necessary that this be a mass method.

(2) By subdivision of each factor and by drawing inferences from each of several possible attitudes concerning a given point, questions are formulated covering the entire ground. The 1691 questions which result are incorporated into a questionnaire by a scattering process which entirely destroys logical continuity.

(3) Checks of veracity are made possible by inclusion of ten "index questions" and by considerations of internal consistency.

(4) A norm is sought in the responses to the 1701-question questionnaire of 57 inmates pledged to tell the truth. Several considerations combine to make it appear that conscious deceit is reduced to a minimum.

(5) The purpose of administering the 1701-question questionnaire to the Truth Group and to other control groups is to obtain objective criteria upon which the relative significance and value of the individual questions may be based.

# THE TRUTH GROUP

## V

THE Truth Group contained originally 64 members. Of these, however, only 57 actually completed the answering of the entire questionnaire and it is upon these 57 that all mathematical results are based. Of the seven inmates who began the questionnaire but did not complete it, one (number 12) was transferred to another penal institution, two (numbers 28 and 53) were released on parole before the experiment was complete, and three (numbers 7, 13 and 31) declined to continue after completing one section of the questionnaire, presumably either because of the time and labor involved or because of the searching nature of some of the questions. Finally, one member of the group (number 18) completed the questionnaire, but tabulation of the results revealed a lack of internal consistency in his answers which led to the belief that he had not been truthful. After protracted investigation he was taxed with this by the inmate investigators and admitted that he had answered some of the questions untruthfully. For this reason his answers were not considered.

A distinct effort had been made in selecting the personnel of the Truth Group to obtain as nearly as possible a fair cross-section of the inmate population as a whole. Thus, purposely included were inmates convicted of crimes varying from larceny and confidence-game to murder, inmates belonging to the extremes of the social scale, and inmates with Army Alpha Intelligence scores ranging from A 202 to D 20. The ages of the subjects ranged from 21 to 62; the length of time during which they had been incarcerated at the time of the test varied from five months to twenty-seven years and two months. The crimes of which they had been convicted were as follows:

Murder .....	6
Manslaughter .....	1
Assault to Murder.....	2
Armed Robbery.....	33
Assault to Rob.....	1
Burglary .....	2
Assault to Rape.....	1
Larceny .....	6
Confidence Game .....	4
Kidnaping for Ransom.....	1

Complete factual data concerning the 57 Truth Group subjects are included in Table D 1 (Appendix D).

These inmates had been requested individually to take part in the experiment, the request emanating from that one of the inmate investigators who was best acquainted with each individual. The purposes of the investigation were carefully explained to each subject, and positive assurance was given each that the responses to the questions would be considered entirely confidential. In addition, it was represented to each member of the Truth Group that his cooperation would be a great personal favor to the inmate investigators.

The questionnaire was administered under the most informal conditions. The inmates secured the loan of four or five large cells such as are ordinarily used to accommodate six prisoners. Into each of these they moved various tables, desks, and stools, borrowed for the purpose, to accommodate from 16 to 20 men. Cigarettes were provided.

When sufficient men had assembled to fill one of the cells, one of the inmates—usually X—stepped into the cell with them, closed the door, and repeated very briefly what each man had been told individually: that it was his hope that the results of the investigation would benefit the convict of the future, that certainly the research would affect no one adversely, that the answers to the questions would not be divulged to anyone whatsoever, and that the success of the investigation depended entirely upon the willingness of the members of the group to be absolutely truthful in the answers. It was emphasized once more that false answers would be a serious handicap to the work, and the subjects were requested not to answer the questions at all if they had any hesitation whatsoever in answering truthfully.

After this preamble, X asked the men to look at the copies of the questionnaire, with which they had been supplied, and read the following directions slowly and distinctly:

Please write your name and number in the spaces left for this purpose on the first line. When you finish the first sheet, you are again to write your name and number at the top of the second sheet, and so forth. Please do not forget to write your name and number on each sheet.

You will notice that the sheet you have contains a long list of questions. Each of these is to be answered either Yes or No. If you want your answer to be YES, underline the word YES; if you want your answer to read NO, underline the word NO.

You may feel that it is difficult to answer some of them positively without saying something about the answers—that is, writing a little explanation—but just go ahead and answer one way or the other: whichever is nearer the truth. Please answer all the questions in order—don't skip any, and answer even such as you do not think apply to you.

For example, question number 39 reads, "Have you known your partner since you were a kid?" Now some of you have no rap-partners. The question

does not apply to you, *but* answer it just the same. If you have no rap-partner, you cannot have known him since you were a kid; so answer NO. The same is true of many other questions, such as those dealing with the group of which you were a member outside. If you did not belong to a group at all, answer these questions all NO. But answer *every* question.

Do not make any attempt to study the questions out. Just answer whatever seems at first glance to be the answer nearest the truth.

Answer a question YES by underlining the word YES, and NO by underlining the word NO.

And please answer the truth.

The questionnaire was administered in four sections of ten mimeographed pages each. Each section contained approximately 425 questions. The test was proctored by the inmate investigators and some of their friends enlisted for the purpose, to the following extent: each proctor had a supply of sharpened pencils, which he dispensed to the subjects as needed. Although no attempt was made to enforce strict silence, whenever conversation threatened to become general and to impede the progress of the test, the proctor remarked that X had said the subjects should not talk—above all should not discuss the questions. When, as happened rather frequently during administration of the first section, a subject came to a question not applicable to him and complained to the proctor, the latter repeated the instruction to answer such questions NO but under no circumstances to omit an answer. All other questions were gently but very firmly brushed aside with such remarks as “I can’t discuss anything with you during the test,” “I’ll be glad to talk that over with you later,” etc.

No officers or officials of any kind were present at any of the tests. Even the writer remained entirely away from the scene. The matter was entirely arranged and administered by the inmates in charge.

The attitudes of the individual subjects toward the questionnaire varied widely. All were most cooperative and seemed pleased with the opportunity of contributing to the investigation. Some carried their meticulousness rather to extremes. Thus, subject number 2 had been in the habit of answering the questionnaire sections in the afternoon. When the time arrived to administer the fourth section, however, a last-minute change of plans would have made it somewhat more convenient to have this man included in the morning group. He was asked whether it would be convenient to come in the morning instead of the afternoon, but declined on the ground that he was in the habit of preparing himself for the questionnaire by first taking a cold shower to increase his mental alertness and that it would be impossible to take the shower in time for the morning session. Others, on the other hand, were very skeptical of the practical value of the investigation; some viewed the entire subject of sociology with amused tolerance. Typical of their outlook is the follow-

ing remark: "I don't think much of this criminology racket. It looks like a lot of bunk to me. But if X and Y think it might do some good for cons fifty years from now and if it's helping them out to answer these questions, why it can't do any harm."

The time required to answer one section of the questionnaire varied from 28 minutes to an hour and 37 minutes. The sections were administered roughly three weeks apart.

When all 57 subjects had completed the four sections of the questionnaire, the 96,957 individual answers were tabulated on specially ruled large sheets of paper. Arbitrarily the sign "X" was used to indicate YES, the sign "O" for NO, and the sign "-" for those questions which accidentally had been left blank by the subjects. When the tabulation had been completed, each entry was rechecked to insure correctness.

A file consisting of 5" x 8" cards was now prepared. A card was devoted to each individual question. This card contained the factor designation of the question, its questionnaire number and the question itself in a form identical with that in which it appeared on the questionnaire. On these cards were entered the number of subjects who had answered YES, the number who had answered NO and the number who had failed to answer in the case of each of the 1701 questions. A sample card, containing additional entries for other groups, appears in Appendix D.

### *Summary and Conclusions*

(1) The Truth Group, composed, as it is, of men of widely differing intelligence, social level and criminal type, represents a fair cross-section of the inmate population as a whole.

(2) The conditions surrounding administration of the questionnaire to the Truth Group are informal in the extreme and calculated to set the subjects completely at ease. Anonymity of the results and the necessity for entire truthfulness are emphasized in administering the test.

(3) The 96,957 individual responses are tabulated and the number of YESes, NOes and BLANKs counted for each question.

# THE RANDOM GROUPS

## VI

IF the 100,000 responses collected from the Truth Group constitute a fair random sample in the statistical sense, the tabulations obtained may be considered to constitute a norm in the case where the questions are answered truthfully with full knowledge on the part of the subject that his answers will not be used to his detriment. There remains the problem of obtaining a measure of the deviation from this norm to be expected when the questionnaire is administered to unselected random groups in a routine manner and without any assurances to the subjects.

In an attempt to secure a measure of this deviation due to untruthfulness, or rather the desire to answer the questions to the advantage of the subject, the four sections of the questionnaire were administered to four random groups of 57 individuals each. The groups were constituted in the following manner: in his capacity of Sociologist and Actuary to the Parole Board, it is the writer's duty to interview every inmate who is to appear for hearing on parole. The monthly docket averages in the neighborhood of 150 cases. In addition, many inmates who have already received settings from the Board, petition that body, after the lapse of some time, for rehearing of their cases. Requests for such rehearing are generally, although not necessarily, brought first to him. Usually, then, he interviews from 150 to 200 men a month. There is, of course, no selective factor characteristic of these men except that the majority of them have just completed their minimum sentences and are therefore to appear for hearing before the Parole Board. The first 57 inmates whom the author interviewed after decision to administer the questionnaire constituted Random Group A. Similar totally unselected groups of 57 inmates successively interviewed made up Random Groups B, C, and D. The only exceptions made to strict succession were the cases of a few illiterates and a few individuals who were unable to read the questions because of defective eyesight.

As an example of the characteristics of these random groups we may quote the following data: In Group A the ages of the subjects varied from 22 to 52 with a mean value of 30.5. Army Alpha scores ranged from A 178 to E 6 and had a mean value of 67.93. The offenses of which the subjects stood convicted were:

Murder .....	1
Manslaughter .....	2

Armed Robbery.....	39
Assault to Rob.....	2
Burglary .....	4
Larceny .....	5
Forgery .....	2
Confidence Game.....	2

The group contained 18 Negroes. Comparison with the statistics applying to the Truth Group (Appendix D) indicates that the random groups were essentially similar in constitution except that the mean Alpha Score of the Truth Group is very considerably higher than that of the random groups.

Tabulation of the responses of the 228 individuals who made up the four successive random groups proceeded in a manner identical with that employed for the Truth Group. The various groups answered successive sections of the 1701-question questionnaire; so that the final tabulation represents the answers of a group of 57 men to each of the 1701 questions. The 96,957 replies were counted as before and the number of YESes, NOes and BLANKs for each question recorded on the cards described above (v. Appendix D).

The essential points to be remarked about the replies of the random groups are that

(1) Unlike the members of the Truth Group, the individuals who composed the random groups were given no assurance that their answers would not be used to their detriment. The questionnaire was administered as a routine matter by the writer, and no one was urged or persuaded to answer at all or to answer truthfully. The subjects believed that the information would be used by the writer in preparing his reports to the Parole Board. Administration by an official and belief on the part of the subjects that their answers would have a bearing on their chances of parole approximate the actual conditions under which the questionnaire will be administered if adopted for practical purposes.

(2) The random groups represent truly unselected sections of the general inmate population. Comparison with the Truth Group fails to reveal very great disparity except in the matters of intelligence and social status. Here, unavoidably, the Truth Group is atypical and represents a somewhat higher level than is characteristic of the general population. It therefore becomes necessary in comparing the responses of the two groups to bear in mind that a differential element is introduced by these differences.

The differences observed in the responses of the Truth Group on the one hand and the Random Group on the other to the individual questions on the questionnaire served as one of the criteria adopted in selecting the questions to be included in the revised questionnaire which is to be administered to all inmates appearing before the Board. Obviously, one

fact which must be ascertained before a given question can be considered proper for inclusion in such a questionnaire is the degree to which it will tend to be answered untruthfully. It is a measure of the deviation from the norm of the Truth Group which is motivated by reasons of expediency which it was hoped to obtain from comparison of the responses of the several groups.

### *Summary and Conclusions*

(1) Administration of one section of the 1701-question questionnaire to each of 228 successive inmates appearing for interview furnishes the basis for a measure of the deviation to be expected from untruthfulness of responses. The individuals composing the random groups believe that their answers will exercise some influence in the matter of their parole, and the psychological attitude is therefore identical with that in the case of actual use of the method.

(2) Comparison of the statistics pertaining to Random Group A with those of the Truth Group indicate that the groups are strictly comparable except in the matters of intelligence and social status. The last-named introduce differential elements, which explain a portion of the variance in the case of some of the questions.



## HOW MAY THE BEST QUESTIONS BE SELECTED?

# VII

AS stated above, it is manifestly impossible to administer a questionnaire of such enormous length as a matter of routine to all applicants for parole. The time and labor involved in the mere administration of the test render this impractical; the labor involved in evaluation of the results makes it impossible. The question, therefore, arises whether it is possible to determine which of the 1701 questions are the best questions for inclusion in an abridged questionnaire which shall yet obtain the desired information.

Before attempting to answer this question it is necessary to define rigidly the word "best" in this connection. It is imperative to remember that the objective of this portion of the research is the development of a technique which will enable a civilian investigator to elicit information as similar as may be to that of the inmates' estimates. The only true criterion of validity of the prediction system outlined in this paper lies in a comparison of the predictions with actual outcome on parole. But the data upon which such a comparison must be based cannot, in the nature of things, become available until a large number of subjects, graded in advance of release by the "hunch" method or by the questionnaire method which is designed to supply information as nearly identical with "hunches" as is feasible, have been at liberty on parole for a sufficiently long period to determine whether each individual has succeeded or failed. The time required for the accumulation of this data cannot be less than five years.

The temptation is strong, with the data described above available, to study carefully the responses found in the Truth Group and the Random Group to the various questions and then to decide arbitrarily or at best upon some *a priori*, "common-sense" grounds, which of a given series of questions, all directed at one factor or subfactor, seem to be best adapted to the securing of the desired information. Such a procedure would not permit of the formulation of any objective definition of "best-adapted questions"; it would result merely in opening wide the door to individual differences of opinion, based, it is to be feared, at least as much on individual preconceptions and prejudices as upon sound deductive grounds. Worse, moreover, such a procedure would obviate entirely any crucial test of the validity of either of the two major hypotheses of this study:

the validity of estimates of parolability, and the utility of the questionnaire method in securing information analogous to that which is the basis of "hunches." Employment of such means would definitely constitute the crossing of the Rubicon which separates social science from social philosophy together with a burning of the bridge by which the crossing had been effectuated.

If the problem is viewed not in its entirety, but rather in the light of its logical subdivisions, a definition of "best" questions does become possible at once. The entire investigation rests upon the assumption that inmates' hunches of parolability are valid. If this hypothesis is found to be unsound, the entire study is valueless except insofar as it shows such unsoundness. The ultimate criterion by which the initial hypothesis must be judged lies, again, in comparison of predictions with actual outcome, and so necessitates a waiting period of years. Presumptive evidence of the validity of the hypothesis, however, is to be found in the induction from the existence of high correlation between the judgments of various inmates to the existence and measurability of parolability. It is upon this partially substantiated validity that further work must rest. The alternative is to postpone further investigation until the testing period has elapsed.

If we accept, provisionally, the validity of the "hunches," a very definite criterion of the significance of the questions of the questionnaire appears at once. Precisely those questions are the best which give information most nearly identical with the "hunches." Said in other words, the sole end in formulation of the questionnaire is and must be the attempt to forge an objective tool which will make available scores as nearly identical as may be with inmates' estimates. Of course, the estimates may be proved invalid. If so, the questionnaire, too, must of necessity, fail. If, indeed, by some remote chance the questionnaire should yield information of value in prediction, whereas the estimates failed to do so, this would merely be a lucky accident of no general significance. The test, then, of good questions is not at all whether the results they yield accord well with actual outcome on parole, but rather whether they accord well with inmates' judgments, for the principle of estoppel prevents us from attempting to go behind the judgments for a criterion of the questions.

With this definition of "best" questions, their identification becomes possible by purely objective means. Theoretically, at least, it is only necessary to determine which questions or which combinations of questions do, in fact, correlate most highly with the judgments made beforehand.

Since obviously it is a prerequisite that a series or battery of questions exhibit high correlation with judgments consistently, and not merely in the case of one individual or of one group, it is possible to

shorten considerably the labor of selection of the questions by certain *a priori* considerations. Thus, for instance, although they may be highly significant in the case of a group whose veracity can be counted on, questions which are likely to be lied about are of little value in other groups, where deceit may be confidently expected. Similarly, questions whose replies are unduly influenced by the intelligence level or the social status of the subject answering cannot be used successfully in groups which are not homogeneous in these respects. Finally, questions which experience shows to be ambiguous or likely to be misunderstood will tend to exhibit wide fluctuations in degree of association with "hunch" judgments as successive groups are tested.

On the basis of the data collected from the Truth Group and the Random Group, it is possible to ascertain which questions are open to the three objections cited. For, accepting the replies of the Truth Group as a norm, we can easily determine from the deviation in distribution of responses between the groups which questions are relatively greatly affected by the desire of the subjects to answer expediently. Questions the responses to which deviate widely on this ground must be discarded, no matter how significant truthful answers to the questions might prove to be.

Identical considerations lead to the rejection of questions the answers to which vary widely with differences in intelligence and social status, for except insofar as these qualities are themselves factors in parolability, it becomes impossible to evaluate answers to questions which depend upon them except by individual means. The need for group methods of administration and scoring has already been explained. The Truth Group and Random Group considered together give an indication, also, of the differences in response distribution arising from this ground and make possible the elimination of questions not adapted for the purpose in view.

Ambiguity of the questions themselves is a far less important pre-determinable reason for rejecting questions. A few questions, it is true, which simply cannot be intelligently answered, crept into the 1701-question questionnaire. An example is question 1605, "Do you never go to church in the institution?" The answer "Yes" would probably be construed as meaning, "Yes, I never go." The answer "No" would certainly stand for "No, I never go." In addition, a very few questions which cannot be answered by "Yes" or "No" were overlooked in the original compilation. Such are "What is the most you ever paid for a suit of clothes?" Such questions were noticed by the inmate investigators themselves or were called to their attention by members of the Truth Group and were promptly discarded.

Even after questions open to the objections listed had been eliminated, the problem of selecting the most significant of the remaining questions was still enormous. It was determined that intelligent selection was pos-

sible only from intensive study of the replies of the Truth Group combined with a check by administering the questions tentatively selected to a comparable group.

The first method attempted rested on this consideration: if, among the questions based on a given subfactor, a group or "cluster" of ten or twelve were found to exhibit a high degree of intercorrelation, these questions might be considered very similar and it would be permissible to select any one question as representative of the entire cluster.

The mechanics of determining the degree of correlation among responses to the several questions was as follows: upon statistical cards were punched the replies of each of the 57 members of the Truth Group in order. One card was punched for each question, the answers of the 57 subjects to that question being recorded. When such cards had been punched for each of the 1701 questions, a second, identical set was prepared. This second set was used to verify the accuracy of the punching of the first set. To test this accuracy it was only necessary to hold the cards belonging to the two sets and pertaining to the same question to the light

Figure 3

Question No. 2 AA 1		$r = +.85$	
Question No. 2 AD 1			
5	35	N = 54	
11	3		
.09	.65	.74	
.20	.06	.26	
.29	.71	1.00	
$a = .29$	$a = .26$		
$b = .26$	$b = .71$		
$c = .20$	$c = .06$		
$+r' = +.85$	$-r'' = +.85$		

and to determine by inspection whether the punch-holes of the two cards corresponded exactly. Whenever an error was discovered through failure of the cards to correspond exactly, a third card was punched for the question and compared successively with the two originals. That one of the three cards which now failed to correspond with the other two was, of course, the one in error, and was discarded, its place being taken by the newly punched card.

The method of computation of coefficients of correlation was that described by Professor L. L. Thurstone in *Computing Diagrams for the Tetrachoric Correlation Coefficient*. It was found convenient to prepare a special "conversion sheet" from which could be read directly the percentage-values of the proportion of all integers to 57, the number of subjects in the group. Similar sheets were prepared for total groups of 56, 55, 54, etc. for use in cases where some of the subjects had failed to answer the question, thus reducing the total number of YES and NO answers. Special paper was mimeographed for the readier computation of tetrachoric coefficients of correlation. Each sheet contained six forms like that in Figure 3.

After the word "Question" on the first line is written the factor-designation of one of the two questions to be tested for correlation. Arbitrarily, the  $x$ -axis is assigned to this first question. The other question, corresponding to the  $y$ -variable, is designated on the next line.

In the four-celled table directly under the first horizontal line, an entry is made in quadrant I for the number of men who answered both questions YES, in quadrant IV for those who answered the first question YES and the second NO, in quadrant III for those who answered both NO and in quadrant II for those who answered the first question NO and the second YES.  $N$ , the total population, is computed by subtracting the number of blanks found to occur on a given set of cards from 57. An automatic check is provided by summing the numbers in the four quadrants and determining whether this tallies with the computed value of  $N$ .

The larger tetrachoric table below the double horizontal line is used for the entry of the proportions of the total  $N$  represented by the individual values in the four quadrants of the table above. These proportions are summed horizontally and vertically, the sums being entered in the appropriate spaces at the right edge and the bottom of the table. These partial sums are again summed both horizontally and vertically to determine that they equal 1.00, thus offering a second check on the arithmetical computation.

Of the four partial sums described, any two are selected which lie between the values of .05 and .50. These are designated as  $a$  in the first and second columns respectively at the bottom of the form. When a selection has been made of  $a$ , the choice of a corresponding  $b$  is limited to those two partial sums lying on the axis opposite from that of the  $a$ . Thus, if  $a$  was one of the values at the bottom of the table,  $b$  must be one of the values at the right edge and conversely. When both  $a$  and  $b$  have been selected,  $c$  is determined. It is that value in the table itself which lies at the intersection of the  $a$  axis and the  $b$  axis. In other words,  $c$  lies in quadrant I or IV when  $a$  (or  $b$ ) is to the right of the center of the table and in quadrant II or III when  $a$  (or  $b$ ) lies to the left. Fur-

ther,  $c$  lies in quadrant I or II when  $a$  (or  $b$ ) lies above the middle of the table and in quadrant III or IV when below.

When values have been chosen for  $a$ ,  $b$ , and  $c$ , the value of the tetrachoric coefficient of correlation can be read directly from Professor Thurstone's graphs. In the usual case, there are four possible readings. The procedure adopted in this study was to select two such readings with different values of  $a$ . When the readings corresponded closely (within .02), the mean value of the readings was accepted as the true value of  $r$ . Where, however, greater variance was found between the two readings, the remaining two possibilities were read off in addition and the mean value of the four readings taken as the value of  $r$ .

The replies to questions were tested for association by correlating each

TABLE VI

INTERCORRELATION OF QUESTIONS COMPRISING FACTOR NUMBER I AS MEASURED (A) BY THE MEAN OF THE ABSOLUTE VALUES OF  $r$  AND (B) BY THE NUMBER OF QUESTIONS FOR WHICH  $r$  IS HIGH

Question	Mean Absolute $r$	Questions with which $r$ is .90 or more	Questions with which $r$ is from .80 to .90
1	M/ $r_1$ /.237		
2	M/ $r_2$ /.329	Q. 3 $r$ = .93	
3	M/ $r_3$ /.278	Q. 2 $r$ = .93	
4	M/ $r_4$ /.241		
5	M/ $r_5$ /.440	Q. 14 $r$ = .91	Q. 12 $r$ = .88
6	M/ $r_6$ /.428		Q. 13 $r$ = .80, Q. 14 $r$ = .82
7	M/ $r_7$ /.572	Q. 12 $r$ = .96, Q. 14 $r$ = .95, Q. 16 $r$ = .90	Q. 15 $r$ = .82, Q. 22 $r$ = .80
8	Yields indeterminate correlations with all other questions		
9	M/ $r_9$ /.533		
10	M/ $r_{10}$ /.393	Q. 16 $r$ = .94	
11	Yields indeterminate correlations with all other questions		
12	M/ $r_{12}$ /.519	Q. 7 $r$ = .96	Q. 5 $r$ = .88, Q. 14 $r$ = .85
13	M/ $r_{13}$ /.415		Q. 6 $r$ = .80, Q. 20 $r$ = .80
14	M/ $r_{14}$ /.559	Q. 5 $r$ = .91, Q. 7 $r$ = .95, Q. 15 $r$ = .92	Q. 6 $r$ = .82, Q. 12 $r$ = .85
15	M/ $r_{15}$ /.509	Q. 14 $r$ = .92	Q. 7 $r$ = .82
16	M/ $r_{16}$ /.346	Q. 7 $r$ = .90, Q. 10 $r$ = .94	
17	M/ $r_{17}$ /.296		
18	M/ $r_{18}$ /.625		
19	M/ $r_{19}$ /.431		
20	M/ $r_{20}$ /.313		Q. 13 $r$ = .80
21	M/ $r_{21}$ /.305		
22	M/ $r_{22}$ /.230		Q. 7 $r$ = .80
23	M/ $r_{23}$ /.387		

question in a given factor or subfactor with the remaining questions in the same subfactor. In all 4,049 tetrachoric  $r$ 's between individual questions were computed. Consideration of the results obtained in these 4,049 cases indicated that this method alone would prove at once too laborious and entirely ineffective in reducing the 1700 questions to a number suitable for routine administration. The reasons for this will appear from the following discussion of the intercorrelations of the 23 questions which constitute Factor number 1—a factor chosen for intensive study partly on the ground that it contains only this relatively small number of questions. Table E 1 (Appendix E) shows the intercorrelations existing between each question and the remaining questions, a total of 253 different coefficients. An attempt was made to determine from these data which questions might reasonably be selected as most highly representative of the entire group. Two separate criteria were chosen for this purpose: the mean absolute value of the coefficients of correlation characteristic of each question when tested with every other question, and the number of other questions in the factor which exhibited very high correlation with the given question. Table VI shows the results of this investigation for Factor number 1.

From the point of view of high mean correlation with other questions, which may be taken to denote a considerable degree of saturation with the basic common factor, questions 7, 9, 12, 14, 15, and 18 appear as those most nearly characteristic of the entire group. From the point of view of using one question as representative of two or more questions, it appears that questions 2 and 3 are virtually interchangeable, as are 10 and 16, and 14 and 15. Question 7 might safely be used to represent also the information contained in questions 12, 14, and 16.

The method, though sound, is, in addition to being extremely laborious, incapable of effecting a reduction in the number of questions retained to nearly the point desired. If the results obtained in the case of Factor number 1 are representative of the entire questionnaire, the use of the mean absolute  $r$  as a criterion would reduce the total number of questions to approximately one-fourth, whereas the method of substitution in cases of high intercorrelation eliminates but six of the 23 questions in the factor. When it is borne in mind that many factors contain many times more questions than does Factor number 1, the labor involved in this method may be appreciated. Thus, Factor number 17 contains 134 questions, which necessitate the computation and analysis of over 89,000 coefficients of correlation.

In an endeavor to find a simpler and at the same time more accurate method of determining which questions were most truly representative of each subfactor, recourse was had to the Thurstone Factor Analysis. I was most fortunate in having the benefit of several personal visits from Professor Thurstone, during which he gave me the privilege of his per-

sonal advice and supervision. The methods employed in applying the factor analysis to my problem are those described in Thurstone's *The Theory of Multiple Factors* and *A Simplified Multiple Factor Method*.

The reasoning underlying this attempt to apply the Thurstone analysis to the problem of selection of significant questions was the belief that each subfactor or smaller subdivision represented, in addition to more or less numerous extraneous elements, one basic factor, which underlay all the questions. By the Thurstone analysis it should be possible to determine the degree to which each question is saturated with the basic common factor and to what degree it represents, rather, factors other than the primary one. Factors number 1 and number 2 were chosen to test the feasibility of this method.

For the purpose of comparison of the information obtained from the questionnaire with inmates' judgments, investigators W, X, and Y estimated each of the 57 members of the Truth Group on each of the 54 factors contained in the revised list. This estimating was done by the three men together rather than individually. The discussion of each separate subject was led by that one of the three who was best acquainted with him. In cases where unanimous opinion could not be attained, the factor was scored in accordance with the majority opinion. The scores on each factor of the 57 subjects of the Truth Group are listed in Table E 2 (Appendix E). The total scores are listed in Table E 3 (Appendix E) and the distribution is represented graphically in Figure E 4 (Appendix E).

Of the 23 questions constituting Factor number 1, it was necessary to discard seven at the outset because they did not yield determinate correlations with the remaining questions. The questions discarded for this reason were: 1 A 8, 1 A 9, 1 A 10, 1 A 11, 1 A 16, 1 A 18 and 1 A 21. Intercorrelations among the remaining sixteen questions were computed by the tetrachoric method, and a correlational matrix was set up. (See Table E 1, Appendix E.) The first factor-loadings were found to be as follows:

1 A 1	.227	1 A 5	.865	1 A 13	.717	1 A 19	-.571
1 A 2	.354	1 A 6	.770	1 A 14	.999	1 A 20	.577
1 A 3	.379	1 A 7	.948	1 A 15	.788	1 A 22	.458
1 A 4	.144	1 A 12	.908	1 A 17	-.370	1 A 27	-.518

The first factor-residuals were next computed. Questions of two classes were now eliminated: (a) those questions which had factor-loadings of less than .4 and (b) those questions which gave rise to unduly high residuals. By successive removal of questions yielding high residuals, the latter were reduced to the point where the standard deviation of their distribution was .082. This left as significant questions for Factor number 1 the following questions:



- 1 A 5 Have your brothers and sisters done more for you than you have done for them?
- 1 A 6 Do your brothers and sisters send you money?
- 1 A 7 Have your brothers and sisters been loyal to you?
- 1 A 12 Have your brothers and sisters done all they should for you?
- 1 A 14 Do your brothers and sisters visit you or write to you?

Scores were now computed for each member of the Truth Group on this battery of five questions, and cutting the distribution at the median (considering as minus, scores from 0 to 3, and as plus, scores of 4 or 5), a correlation of  $+.60$  was found between the "hunch" scorings and the answers to the questions. In the case of this first factor, the questions selected by the factor-analysis accord quite well with "common-sense" estimates of the relative significance of the questions.

When the Thurstone Analysis was applied to Factor number 2, it soon became apparent that those questions with the highest degree of saturation with the primary common factor were by no means necessarily the "most significant" questions from the point of view of this investigation. The first reason for this appears to be that, as might be expected, the factor-analysis singles out those questions which are most nearly synonymous with that question which is most highly saturated with the factor. Thus, the most significant question in Factor number 2 proved to be 2 AA 1, "Are your parents the finest people in the world?" which had a factor loading of  $.993$ . Next highest in degree of saturation are 2 AA 2, "Is your mother much sweeter than other mothers?" and 2 AA 3, "Is your father much finer than most people?", which, taken together, are synonymous with the first question. Although it is unquestionably true that such synonymous or nearly synonymous questions will partake to the highest degree of the primary factor represented by all the questions, it is also certain that choosing such questions exclusively will result in the exclusion of contributory or supplementary evidence on related but not synonymous subjects, such as that yielded by 2 AE 1, "Have your parents stuck with you through thick and thin?" and 2 C 4, "Did your parents neglect your training when you were young?" It seems highly desirable that information on such subjects should be included, even if they are not so highly saturated with the primary factor.

A second objection to selection of significant questions by the factor analysis is that it tends to pick out precisely those questions which are most obvious in their application to prediction. It is one of the purposes of the questionnaire to avoid leading questions and questions so direct that their purpose is immediately obvious. Some pains have been taken to couch questions in indirect form wherever possible, in order to make it difficult for the subject to see the point at which the questions are aimed and so to make it more difficult to lie successfully. Selecting those questions which are most bald and direct defeats this purpose.

In view of the difficulties inherent in the two methods described above, recourse was had to yet another approach. This approach will be described in the next chapter.

### *Summary and Conclusions*

(1) Those questions contained on the 1701-question questionnaire are the "best" which yield information most closely analogous to that supplied by "hunch" judgments. Any other criterion is irrelevant at this stage of the investigation.

(2) Questions are discarded which are likely to be lied to, which depend upon the intelligence or the social status of the subject answering, or which are ambiguous.

(3) An unsuccessful attempt is made to reduce the number of questions by eliminating all but one question from a cluster of highly correlated questions.

(4) The Thurstone factor-analysis is found unsuitable for the purposes of this study because it tends to select synonymous questions and questions the application of which to prediction is patent.

# CONSTRUCTING AN ABRIDGED QUESTIONNAIRE

## VIII

IN VIEW of the impracticability of employing either the intercorrelation method or the Thurstone factor analysis in selecting the most significant questions from among the 1700, an attempt to devise some more practical method became imperative. It must be emphasized once more that at this point in the investigation the only possible criterion of the value of questions is that furnished by the correlation with "hunch" judgments. By rigid exclusion, on the one hand, of subjective evaluation of the probable value of several questions, and, on the other, of their possible degree of association with actual outcome on parole, there emerges the clear and unequivocal fact that those questions are best the answers to which accord best with "hunch" judgments on each factor. A purely pragmatic definition must be accepted: these questions are best because they work best.

If this is the case, the problem becomes that of selecting those batteries of questions which do, in fact, correlate most highly with the "hunch" estimates. Even though this is impractical by analytic means, it may obviously be accomplished by purely empirical methods: by successive trial and error, for example. But such an iterative process may be considerably abridged by application of certain *a priori* considerations. Thus, for example, if the distribution of the estimates on a given factor is very highly skewed, so that only a few subjects receive a minus and the large majority a plus, it is obvious that only those questions the responses to which are also very unequally divided can be of much value as indices, for in the case of questions replies to which are fairly evenly distributed between YES and NO, the test is not sufficiently critical to be of much value. Let us suppose, for example, that of 57 subjects in the Truth Group, but five are graded minus on Absence of Inordinate Desire for Clothes. Only such questions as distinguish between a very small group on the one hand and the large majority on the other can conceivably be of value for this factor, for if the replies are evenly distributed, even in the most favorable case possible, the questions will divide the group into two nearly equal parts, one of which will contain all five individuals. But this group will contain in addition to these five individuals some twenty-three others with nothing to differentiate among them. The question is therefore not a sufficiently specialized tool to serve as an

index, since the first requirement of a question designed to serve as a criterion of the presence of a given factor is that the distribution of its responses be not too widely variant from that of the "hunch" scores.

A second requirement of suitable questions is that a preponderance of the subjects estimated to possess the factor be included among the number of those who answered the question in a manner consistent with this fact. Thus, if 18 subjects were estimated to possess Strength of Character, only such questions as were answered favorably by a majority of these 18 men could serve as a useful index of the quality prompting the estimates.

With these two requirements in mind, it was possible to devise a means of selecting those questions from the total under each factor which would be most likely to prove useful in securing the desired information. This method consisted of the following processes:

- (1) The favorable response to each question under a given factor was determined by consideration of the matter of whether YES or NO was more consistent with the existence of the quality which it was desired to measure.

- (2) The distribution of plus and minus scores accorded the subjects in the estimating was studied in the case of each factor, and those questions were eliminated in which the distribution of favorable and unfavorable responses differed widely from the distribution sought.

- (3) Of the remaining questions those were retained in which the largest proportion of the subjects actually estimated favorably showed favorable responses, or conversely.

From the remaining questions, combinations of two, three, four, five, six, and seven questions were formed, and the resulting batteries tested for correlation with estimates. In some cases the first or second trial yielded a battery of questions which correlated very highly with estimates; in other instances it was necessary to test scores of combinations before a suitable one was found. In some cases, indeed, there appears to be no possible combination of the questions included in the 1701-question questionnaire which will yield a high correlation with "hunch" judgments.

The batteries as finally constituted, together with the minimum number of favorable responses necessary to secure a plus marking, and their correlation with "hunch" judgments of the Truth Group, appear in Table VII.

TABLE VII

BATTERIES OF QUESTIONS FROM 1701-QUESTION QUESTIONNAIRE  
CHOSEN FOR INCORPORATION IN ABRIDGED QUESTIONNAIRE

Factor	Questions Comprising Battery	Minimum Favorable Responses Necessary	Correlation With "Hunches"
3	9AA6, 9ABA4, 9B6	2	.55
4	9C4, 9C21	1	.54
5	10AB8, 10BA13, 10BB14	2	.57
6	10AC5, 10BA11, 10BA14	2	.70
7	21B1, 21B8, 21CB3, 21CB7, 21CA8	3	.70
8	11A1, 11B1, 11B13	2	.67
9	11A1, 11A3, 11B1, 11B15, 11C5	3	.48
10	19A2, 19A13, 19B2, 19B7, 19B15	5	.95
11	22A1, 22A2	2	.50
12	22A3, 22A4, 22B13, 22B15	1	.52
13	15A3, 15B3	2	.68
14	15A3, 15A4	1	.55
15	16AA2, 16AE2, 16AE8, 16AF4, 16CB3, 16D1	4	.95
16	13A2, 13A6, 13A9	2	.47
17	23A12, 23A19, 23A26	1	Ind.
18	24BA1, 24BA7, 24BB1	3	.49
19	18A1, 18A28, 18A31	2	.49
20	18A13, 18A30, 18A31, 18A35	2	.61
21	14C2, 14C6, 14C7, 14C29, 14C31	2	.62
22	17AB3, 17BB2, 17DAA5, 17DAB4, 17DBB2	3	.65
23	17AB7, 17BB3, 17C7, 17DBB1	2	.77
24	20A3, 20B6, 20B8, 20C4, 20C12	3	.60
27	31A2, 31BC3, 31C7, 31C19, 31C20	4	.49
28	31C1, 31C7, 31C13, 31C16, 31C19	3	.58
29	32D1, 32D2, 32D6, 32E4, 32E7	3	.62
30	34A3, 34A4, 34C1, 34C2	4	.72
31	33AA5, 33AB6	2	.52
32	33AB4, 33AC4, 33BA3	1	Ind.
33	29BC5, 29DA1, 29DB5, 29EA1	2	.90
34	28A3, 28A8, 28A11, 28C7, 28D6	4	.88
35	27A1, 27A6, 27A14, 27A17, 27B4	4	.73
36	30B7, 30B10, 30B13, 30B22	2	.89
37	3C1, 3F3	2	.80
38	1A5, 1A6, 1A7, 1A12, 1A14	4	.60
39	2AA1, 2AA2, 2AE1, 2C4	4	.52
40	7A3, 7A10, 7A11, 7A15	2	.72
41	4A3, 4A4, 4A6, 4A7, 4A11	3	.93
42	6A6, 6A19, 6H7	2	.69
43	6A6, 6A19, 6H7	1	.76
44	5A6, 5B4, 5B11	3	.90
45	37AC2, 37BA4, 37BA6, 37BB3, 37BC1	3	.95
46	35A1, 35A2, 35C3, 35C5	3	.91
47	41A14, 41B8, 41C4, 41C12	1	.87
48	36C7	1	.82
49	38B18, 38C1, 38C8	2	.72

## Constructing an Abridged Questionnaire 65

The remaining factors were scored not from responses to questions but from institutional records, and yielded correlations as follows:

Factor	Records Consulted	Correlation
1	Army Alpha Test Score	.65
2	Army Alpha Test Score	.76
25	Wassermann Test	.95
26	Medical Records	1.00
50	Institutional Jacket*	.68
51	Institutional Jacket	.58
52	Institutional Jacket	1.00
53	Institutional Jacket	.90
54	Institutional Jacket	Ind.

\*The envelope for each individual containing commitment papers and so forth.

It will be noted that the lowest correlation it was necessary to accept was .47 and that the remaining coefficients lie between this value and 1.00. The mean of the distribution is 71.14.

Each of the 57 members of the Truth Group was now scored on the 54 factors on the basis of his answers to the 159 questions listed above and the data from the official records in the case of those factors which are graded from record material. A list of the questionnaire scores of the Truth Group is contained in Table F 1 (Appendix F). When these scores are compared with the "hunch" scores of the same men, we have a Pearsonian coefficient of correlation,  $r = +.6844 \pm .0471$ .

Further, a comparison of the questionnaire scores of this group with the scores of the same individuals on the Burgess scale yields a correlation of  $+ .6201 \pm .0550$ .

It must be concluded, then, that the questions contained on the short questionnaire furnish a very satisfactory means of obtaining information analogous to that which constitutes the "hunch" judgments.

### *Summary and Conclusions*

(1) An empirical method for the selection of the best-adapted questions contained on the 1701-question questionnaire is found in actual trial and error of various batteries of questions selected from those which manifest a response distribution similar to the "hunch" distribution.

(2) Batteries are composed for each factor and the scores correlated tetrachorically with inmates' estimates. The coefficients vary from .47 to 1.00.

(3) Total scores built up from questionnaire scores exhibit a correlation of .68 with inmates' estimates and .62 with Burgess scores.

# ARE THE CORRELATIONS OF QUESTIONNAIRE SCORE AND INMATES' ESTIMATES OF GENERAL VALIDITY?

## IX

THE fact that it is possible to select batteries of questions which yield fairly high correlations with the "hunch" scores obtained for the members of the Truth Group gives no warrant for the assumption that comparable correlations will be found to exist also when other groups are graded on the same questions. Particularly is this the case if the other groups are such that veracity cannot be assumed for the answers.

To determine to what degree the correlations would carry over from the Truth Group to other groups, the 159 questions selected, together with two of the original ten "index questions," were combined into a short questionnaire. A copy of this questionnaire is contained in Appendix G.

Copies of this short questionnaire were given to 57 inmates not previously included in any group tested. Some of the subjects were requested to fill out the questionnaire by the inmate investigators; the majority, however, were asked to do so by the author. In either event, no assurance was given that the replies would be considered confidential. The subjects believed that their answers would be scrutinized by the writer, whom they knew to be connected with the Parole Board.

These 57 inmates, known as the Volunteer Group, were estimated by investigators X and Y on the basis of each of the 54 factors. The total scores for each subject are given in Table G 1 (Appendix G). When these scores were compared with scores of the same individuals derived from their answers to the short questionnaire, there emerged a Pearsonian  $r$  of  $+.3850 \pm .0750$ . Comparison of the questionnaire scores with the ratings of these subjects on the Burgess scale yields an  $r$  of  $+.2980 \pm .0813$ . Comparison of the "hunch" scores of these individuals with the Burgess scores gives a coefficient of correlation,  $r = +.4352 \pm .0723$ .

The Volunteer Group did not deviate markedly in its constitution from the Truth Group and the Random Groups. The average age of its members was 33.64 years; the mean length of time served was 5 years and 5.73 months. The mean score on Army Alpha was 90.5. Detailed statistics of the group are contained in Table G 2 (Appendix G). In spite,

however, of the general similarity of the Volunteer Group to the Truth Group, the coefficients of correlation obtained are very considerably lower than those found for the first group. A portion of this variance can no doubt be accounted for on the basis of the relatively greater amount of mendacity in the answers of this group. The coefficient of correlation existing between inmates' judgments and Burgess scores, however,—a coefficient markedly lower than the corresponding coefficient for the Truth Group—can be accounted for only by the fact, recognized in advance by X and Y, that they were considerably less well acquainted with the members of this group than had been the case with the Truth Group or the 150 original subjects. Nor could this well have been otherwise. The original 150 subjects estimated as a basis for investigation into the existence of "hunches" exhausted a large proportion of the inmate population which was best known to X and Y. Addition of the 64 members of the Truth Group increased this proportion. Therefore, the men constituting the Volunteer Group could not but represent individuals with whom the investigators were less well acquainted. Indeed, it was necessary, in order to secure sufficient subjects, to include three or four with whom X and Y were but casually acquainted. The estimates for this group, then, might on *a priori* grounds be expected to be somewhat less accurate than in the other two cases.

It was still believed by the investigators that the coefficient of correlation between questionnaire score and "hunch" judgment, viz., .3850, was somewhat too low to be satisfactory even in view of the circumstances described. An attempt to determine the relative magnitudes of those portions of the total variance attributable to the various etiological factors was undertaken by the partial correlation technique.

Denominating the "hunch" scores by the subscript H, the questionnaire scores by the subscript Q and the Burgess scale scores by the subscript B, the following partial correlation coefficients are found:

$$r_{HQ.B} = +.2987$$

$$r_{BQ.H} = +.1078$$

$$r_{BH.Q} = +.3658$$

From these coefficients it may be inferred that a considerable portion of the entire association between questionnaire scores and "hunches" remains, even when all elements entering into the Burgess scale are held constant. In other words, the questionnaire does bring out important points which enter also into the "hunches," but which are not covered by the Burgess scale.

When, however, the elements which comprise the estimates are held constant, there remains almost no association between the Burgess scores and the questionnaire scores. In other words, the estimates cover the field rather thoroughly.



When the elements making up the questionnaire are partialled out, there remains a relatively very high degree of correlation between the "hunches" and the Burgess scale. The questionnaire, therefore, does not cover the entire ground underlying the estimates.

The correlation, expressed by  $r = .3850$ , which exists between the total questionnaire scores and the total "hunch" scores of the Volunteer Group members must in the last analysis depend upon the degree of association manifested by these two methods of scoring on each of the fifty-four individual factors. In the case of some of the factors this correlation is relatively high; in others it is low. A list of the factors together with the tetrachoric coefficient of correlation between questionnaire score and "hunch" judgment in each case follows:

TABLE VIII  
CORRELATIONS BETWEEN QUESTIONNAIRE SCORES AND "HUNCH"  
JUDGMENTS ON VOLUNTEER GROUP

Factor	Correlation	Factor	Correlation	Factor	Correlation
1	.37	19	.08	37	.32
2	.82	20	-.40	38	Ind. Low
3	.50	21	Ind. High	39	.41
4	Ind. High	22	.00	40	Ind. Low
5	-.02	23	.54	41	.95
6	.40	24	Ind. High	42	.70
7	-.06	25	Ind. High	43	.57
8	.37	26	1.00	44	Ind. Med.
9	.11	27	.08	45	-.04
10	.70	28	.45	46	.70
11	-.26	29	.50	47	Ind. Med.
12	.27	30	.68	48	.13
13	Ind. Med.	31	.35	49	.49
14	.02	32	Ind. High	50	.66
15	Ind. High	33	Ind. High	51	.95
16	-.60	34	.31	52	.95
17	Ind. High	35	.16	53	-.13
18	.48	36	Ind. High	54	.90

If, now, those factors on which high correlations are found to exist are left unaltered, while at the same time the batteries representing those on which the obtained correlation is low are either changed in some way calculated to increase the correlation, or else eliminated entirely, it should be possible to devise a questionnaire which will yield considerably higher correlations for the total scores.

With this in mind, the obtained correlations between questionnaire scores and estimates were subdivided into three categories in the cases of both the Truth Group and of the Volunteer Group. Arbitrarily, coef-

ficients of .60 or more were designated "high"; coefficients between .40 and .60 were designated "medium"; and coefficients less than .40 were called "low." In the two groups, then, the combinations of coefficients on any given factor would be "high-high," "high-medium," "high-low," "medium-high," "medium-medium," "medium-low," "low-high," "low-medium" or "low-low."

Thus, for example, Factor number 3, which exhibits a correlation of .55 for the Truth Group and .50 for the Volunteer Group, would belong to the "medium-medium" classification. Factor number 5, with correlation coefficients of .57 and  $-.02$  respectively, would be classified as "medium-low."

By rearranging the batteries and eliminating questions which weakened the degree of association exhibited by the whole battery, I made an attempt to find questions from among those already selected which would produce correlations in the "high-high" or "high-medium" groups.

An example may serve to make this clearer. In the original attempt to formulate batteries for the factors, Factor number 3, Timidity, was represented by the following three questions:

- 9 AA 6 Are you afraid of snakes?
- 9 ABA 4 Are you afraid of the "hole"?
- 9 B 6 If your cell partner brought an electric stove into the cell, would you be afraid that you might be punished?

On each of these, the favorable answer—i.e., the answer which serves as an index of the quality—is YES. When these three questions were used as a battery, and two favorable answers were taken to constitute the minimum necessary for a mark of plus, the correlation with "hunch" judgments was .55 for the Truth Group and .50 for the Volunteer Group. If, now, question 9 ABA 4 is eliminated from the battery, and only those subjects are marked plus who answer both of the remaining questions YES, the correlations are .63 for the Truth Group and .80 for the Volunteer Group.

It was found, however, that Timidity was the only factor in the case of which it was possible to effect an increase of the obtained correlations by elimination of one or more questions from the batteries as originally constituted. It was frequently possible to bring about such an increase in the coefficient of correlation with one or the other group, but, except in the case cited, this always occurred at the expense of a decrease in the other coefficient.

After this procedure had been completed, there remained thirty-six factors on which the obtained correlations were moderately high. In the cases of the other eighteen factors, it was impossible to secure such coefficients on the basis of the existing data, the 161 questions contained on the short questionnaire. These eighteen factors were therefore elimi-

nated from consideration, and new scores were computed for all the subjects of the Truth Group and of the Volunteer Group on the thirty-six factors only. The justification for discarding the eighteen factors is that although the factors themselves may be highly significant, it appears impossible by the methods described to find for the establishment of the existence of the factors, criteria which are sufficiently accurate for incorporation as elements of the total score. An analogous situation occurs frequently in prediction studies. Thus in his study of methods of prediction,<sup>1</sup> Lanne suggests the elimination of all factors which, although highly associated with outcome on parole, are, themselves, incapable of accurate determination.

The thirty-six factors retained as the basis for further work are:

- |   |  |
|---|--|
| 1. Intelligence                             | 20. Absence of Inordinate Desire for Clothes |
| 2. Absence of Stupidity                     | 21. Absence of Wanderlust                    |
| 3. Timidity                                 | 22. Absence of Broken Family                 |
| 4. Absence of Foolhardiness                 | 23. Family Ties                              |
| 5. Absence of Weakness of Character         | 24. Rural Type                               |
| 6. Shrewdness                               | 25. Happily Married                          |
| 7. Selfishness                              | 26. Good Outside Environment                 |
| 8. Lack of Conceit                          | 27. Absence of Bad Outside Environment       |
| 9. Absence of Love of Comfort               | 28. Absence of Criminality in Family         |
| 10. Religiosity                             | 29. Absence of Recidivism                    |
| 11. Absence of Tendency to be an Agitator   | 30. Absence of Good Job in Prison            |
| 12. Absence of Failure to Learn Lesson      | 31. Absence of Minor Racketeering            |
| 13. Absence of Sharp Practices              | 32. Favorable Age Relation                   |
| 14. Absence of Positive Wassermann Reaction | 33. Absence of Unfavorable Age Relation      |
| 15. Absence of Physical Defects             | 34. Break in Criminal Record                 |
| 16. Absence of Laziness                     | 35. Long Time to Serve on Maximum X          |
| 17. Previous Work Record                    | 36. Absence of Short Time to Serve           |
| 18. Trade                                   |  |
| 19. Absence of Lack of Working Ability      |  |

For greater facility in scoring the questionnaires a set of scoring stencils was made. By laying these stencils successively upon the proper pages of a completed questionnaire, it is possible to read off directly which questions were favorably answered by the subject. The questions pertaining to the eighteen factors deleted are now simply regarded as "duds" and are left unscored. The obtained scores are entered on a "face-sheet" specially prepared for the purpose. An example of such face-sheet is contained in Appendix G.

<sup>1</sup> Lanne, Wm. F.: "Parole Prediction as Science," *Journal of Crim. Law and Crim.*, 26:377-400, 1935.

When the subjects of both the Truth Group and the Volunteer Group had been rescored upon the thirty-six factors, the following correlations were found to exist:

TRUTH GROUP		
"Hunch" x Questionnaire	+ .6958	± .0458
Questionnaire x Burgess	+ .6698	± .0493
"Hunch" x Burgess	+ .6288	± .0539
VOLUNTEER GROUP		
"Hunch" x Questionnaire	+ .4783	± .0688
Questionnaire x Burgess	+ .4913	± .0679
"Hunch" x Burgess	+ .2856	± .0824

Inspection of these zero-order coefficients reveals that in the case of the Truth Group, slightly higher association is exhibited between each of the pairs of criteria when but thirty-six factors are employed than when the original 54 were used. In the case of the Volunteer Group, the increase in degree of association is very much more marked. The low  $r$  found for the Volunteer Group between "hunch" scores and scores on the Burgess scale confirms the belief that the "hunches" for this group are not nearly so accurate as were those in each of the other groups considered.

Denominating the various scoring systems by subscripts as before, application of the partial correlation technique yields the following partial coefficients:

TRUTH GROUP	VOLUNTEER GROUP
$r_{HQ.B} = +.4750$	$r_{HQ.B} = +.4056$
$r_{BQ.H} = +.4181$	$r_{BQ.H} = +.4221$
$r_{HB.Q} = +.3077$	$r_{HB.Q} = +.0663$

These first-order coefficients may be interpreted to mean that in the case of both groups a very considerable degree of association exists even when all the elements which form part of the Burgess scale are held constant. There exists also a considerable degree of association in both cases between the Burgess scale and the questionnaire which is not fully covered in the estimates. If the elements entering into the questionnaire are partialled out, however, there exists with the Truth Group a moderate degree of association, predicated on other grounds, between the estimates and the Burgess scores. In the case of the Volunteer Group, on the other hand, when the elements of the questionnaire are eliminated, there remains almost no association predicated upon other elements common to the estimates and the Burgess scores. The questionnaire does, then, cover the ground taken in by the estimates themselves.

In view of these facts the short questionnaire, based on the thirty-six factors upon which it seems feasible to obtain adequate information, will

be employed in the building of an experience table for testing against actual outcome on parole.

*Summary and Conclusions*

(1) The questions selected from the total of 1701 are combined into a short questionnaire, which is administered to a Volunteer Group of 57 inmates, who receive no assurances of anonymity.

(2) The coefficient of correlation between questionnaire scores and "hunch" scores for the Volunteer Group is .39. An attempt is made to eliminate those factors on which low correlations are found between "hunch" and questionnaire answers.

(3) Thirty-six factors remain after this process of selection has been carried out, and when the subjects are scored and estimated on these factors alone, the correlation rises to .48.

(4) Partial correlation shows that the questionnaire effectually covers all elements of association between "hunch" and Burgess scores for the Volunteer Group.

(5) The short questionnaire, based on the 36 factors described, is adopted for the purpose of building an experience table.

## COLLATERAL STUDIES COMPLETED, IN PROGRESS AND PROJECTED

# X

IN addition to the work reported in the preceding pages, several subsidiary studies have been prosecuted. Especially is this the case with the data pertaining to the replies of the Truth Group to the 1701-question questionnaire. Chief among such investigations is that undertaken at the suggestion of Professors Burgess and Thurstone into the significance of the fact of "minority-ship." An answer to a given question was considered a minority answer when ten or less of the 57 members of the group had answered either YES or NO. This investigation has been made the subject of a separate study, independently reported. The results were largely negative. The association of "minority-ship" to "hunch" scores of parolability, to "hunch" scores of "radicalism," and to intelligence, was tested with the following results:

"Minority-ship" x "hunch" scores of parolability	— .2432 ± .0850
"Minority-ship" x "hunch" scores of radicalism	+ .4396 ± .0733
"Minority-ship" x intelligence	+ .0684 ± .0905

There appears to be, then, a moderate degree of negative association between "minority-ship" and parolability and no association whatsoever between "minority-ship" and intelligence.

Limited application was made also of the case-study method to several subjects in the Truth Group, whose questionnaire responses for any reason excited particular interest. With the exception of subject Number 18, who, as previously stated, was eliminated from the group following discovery of his untruthfulness, the results were uniformly negative.

In an attempt to learn something of the effect of untruthfulness in the scores made on the short questionnaire, four men were requested to answer the 161 questions in the manner they conceived most to their own advantage and entirely without reference to the truth. Of the 45 factors scored on the basis of answers to questions rather than upon record material, one man succeeded in answering 37 favorably to himself, another 34, a third, 35 and the fourth, 22. Although this material is, of course, too limited to warrant the drawing of any inferences, it appears that the men themselves are not sufficiently well able to understand all the implications of the questions to realize which are the expedient answers in many cases. It may be noted that the Army Alpha score of the individual

who answered but 22 factors favorably is 202. One reason for this apparent inability to answer questions to the subject's own advantage lies in the fact that many of the questions themselves are of a factual nature and are subject to check in the light of institutional records. The intelligent inmate, then, will hesitate to answer such questions untruthfully for fear of convicting himself of lying. Even though a man may realize that Happily Married is a favorable factor, he will not be likely to answer the questions from which the factor is scored favorably to himself if he is single, for he knows that that fact is readily ascertainable from the records. Much further work is projected in this particular phase of the subject.

The first section of the 1701-question questionnaire, containing 426 questions, was administered to 35 students of Northwestern University. The purpose of the investigation to be based upon these data will be the study of significant differences between replies to the questionnaire of delinquent and non-delinquent groups, respectively. It may be possible to find indices of delinquency by this means. The tabulation of these responses has been completed and work is now going forward on this subject.

The short questionnaire is at present being administered to all inmates who are to appear before the parole board, whether at the expiration of their minimum sentences or for rehearing. Approximately 150 questionnaires are administered monthly in this way. The scores made on the questionnaire are entered in detail on cards designed for the purpose, and from these cards is slowly developing a corpus of data which can be used to build an experience table. When enough of the men who have answered the questionnaire have been paroled and have been at liberty for a sufficiently long period to determine whether they have succeeded or failed on parole, it will be possible to determine the accuracy of the prediction system based on such scores. Record is kept on the same cards of the Burgess scale scores of the same individuals. By application of Lanne's *psi*-technique for determining the relative accuracy of two prediction tables, it will be possible to compare the results of the two systems accurately.

The judgments of investigators X and Y on the 150 original subjects, the questionnaire scores of the Truth Group, and the scores of the Volunteer Group are all being preserved in a similar manner, so that it may be possible to apply similar tests to these groups also when a sufficient period has elapsed to render the outcome on parole of their members determinate. At least five years and probably seven will be necessary before such tests can have more than a very limited significance.

It is hoped, also, to make a study which will reveal the degree of association between the several factors and outcome on parole. This may lead to results which will render advisable the modification of the factors

now in use. This study, too, must perforce await the building of a sufficiently large experience table to give significance to the results.

Still another investigation, which it is hoped to inaugurate soon, concerns the application of the Thurstone Factor Analysis to the 54 "hunch" factors. It may be feasible to reduce these unit factors to a small number of more fundamental or basic factors. Whether such basic factors, when isolated, will be of such a nature as to permit of direct determination cannot be predicted in advance.

If the experience of the past is in any way indicative of what may be expected in the future, it may safely be predicted that as the investigation continues along the major lines indicated, more and more numerous fields will be opened for investigation. It is the hope of the author that other students interested in the field may join in the exploration of these subjects.



## SUMMARY AND CONCLUSIONS

# XI

THE two major theses, which alone can validate this study, are:

- (1) That one chief purpose of penal incarceration is the rehabilitation of the individual delinquent; that such rehabilitation must be based on some element or elements in the penal situation and that it operates through the transformation of attitudes of the individual.

- (2) That the subjective judgments of properly qualified inmates regarding the probability of success on parole of other inmates possess some degree of validity.

If either of these theses is unsound, the study cannot be of value except insofar as it demonstrates such unsoundness. But, if the theses are accepted, far-reaching consequences follow inevitably.

If rehabilitation is not dependent upon the penal situation, it is difficult to conceive of a rationale upon which the present expensive reformatory and penitentiary systems can be defended; for, if the purpose of penal institutions is punishment—if society incarcerates offenders because of a vindictive desire to retaliate—very much more drastic means of accomplishing this end could be devised. If, on the other hand, the aim is chiefly that of segregation and isolation of delinquents, the maximum terms included in most sentences cannot be defended. It would appear proper, indeed, under this theory, to sentence all offenders for life.

If the element of rehabilitation or reform is admitted, the change must occur sometime between commitment and release. It must depend, then, not upon static factors, which are from the outset fixed for all time; it must rest upon dynamic elements—factors which are subject to continual change. To judge the probability of successful adjustment of a paroled inmate upon such factors as his nationality, his age, his marital status, etc., is to exclude entirely any change which may take place in his ego after his incarceration. The offender who at commitment is a twenty-six-year-old single American will after ten years be a thirty-six-year-old single American. If changes occur at all, such predetermined criteria cannot serve as useful indices.

How, then, can such changes be effected? The problem of the etiology of delinquent behavior is very complex and is very far, indeed, from complete solution. It does appear extremely likely that in any complete explanation of crime, psychological factors must play an important rôle, and that these psychological factors may be classified as belonging to the

field of attitudes. Attitudes do act as determinants in behavior and attitudes can and do change. Here, then, may exist an index of that transformation of the individual's outlook and behavior which is termed "reformation."

The existence, in the philosophical sense, of indices of delinquency is, in itself, of no practical significance if it is not at the same time possible to analyze and measure the indices. To postulate indices of delinquency which are themselves as incapable of measurement as is delinquency, is merely to push the problem one step farther away.

The proposition that it is at least possible that inmates' "hunches" can show the way to definition and mensuration of the indices of delinquency may be accepted both because of the mass of authoritative opinion upon which it rests and the *a priori* considerations which lead to this conclusion. The belief that inmates, or, rather, some inmates would make excellent judges of parolability is almost universal, not only among prison officials and practical penologists, but also among specialists in the field of academic criminology. Dr. Kirchwey, who combines the qualifications of a prison warden with those of a great criminologist, is a splendid illustration in point.

Equally convincing are the logical grounds upon which the hypothesis rests. We should expect a man who had spent years living in intimate association with the Pitcairn Islanders to be a better judge of their psychology than one who did not know them at first hand. In the ordinary business of life, we seek psychological information concerning an individual with whom we are not ourselves acquainted, from one who is an intimate of the person in question rather than from another stranger to him. Nor do any of us, practically, hesitate to make comparative judgments of our intimates in respect to such abstract and complex qualities as intelligence, good sportsmanship, or aesthetic taste. Why, then, should it not be at least possible that inmates' "hunches" regarding parolability, too, should rest upon firm ground?

The matter is subject to actual experimental test. If "hunches" are based upon a really existing and measurable quality, we should expect to find correlations between the limits of .40 and .60 between the "hunches" of different inmates. This expectation is posited upon the well-authenticated existence of the coefficients of this order of magnitude when subjective judgments of competent observers regarding intelligence and the like are compared. But if parolability is a meaningless concept, or if the quality is not subject to measurements by this means, the expectation would be that no correlation would exist among opinions of various observers. True, it might happen by chance that the opinions of one pair of observers would accord to a certain degree. That comparison of the opinions of four observers one with another should all yield moderately high positive coefficients is a virtual impossibility if the correlations are

due merely to the operation of chance. The critical ratios of the coefficients of correlation obtained in this study to their probable errors are respectively 18.0, 6.8, 11.5, 6.6 and 10.3. When it is remembered that a critical ratio of 4 represents a probability of but thirty-five in ten thousand that the correlation is due to chance, it can be seen that the probability that any one of the obtained coefficients is due to random fluctuation is very remote. On the other hand, the probability that *all* the obtained coefficients have arisen by chance is infinitesimally small. It must be conceded, then, that "hunches" do have validity.

Proof that valid "hunches" exist has little practical importance if it is not possible to isolate the unit factors of which they consist. If the concept of "hunches" has any validity at all, it is difficult to believe that they have an origin different from that of other subjective judgments of the existence of complex qualities in others. The only possible epistemological explanation of "hunches" appears to be that they consist of a combination of unit elements, each of which can be traced back to entirely objective experience.

The discussion method, therefore, seems well adapted to isolate and bring to light the constituent elements of the "hunches." In the attempt of each estimator to defend his own judgment in each of many cases, there emerge successively all the elements which ever enter into such estimates. The warrant for belief that the forty-two factors isolated are exhaustive lies in the consideration of their rate of emergence. During the first twenty-five cases, new factors are discovered in rapid succession; from the twenty-fifth to the fiftieth case, the rate of emergence declines rapidly; and thereafter almost no new factors are found. Any factors not included among the forty-two, must, then, be in the nature of residuals.

Belief in the validity of the factors isolated rests not alone upon the subjective opinion of the investigators themselves or upon the relatively objective method of their determination, but even more upon the truth that when the factors are used as a basis of scoring, the total scores correlate very highly with scores assigned by total "hunch" and with factor scores of other estimators. Indeed, the latter are actually as high as or higher than the coefficients of reliability ordinarily found when competent investigators grade the same inmates twice on the basis of institutional records.

Interesting as the proof of the existence of estimates of parolability and the isolation of their constituent elements may be to the psychologist and the philosopher, little practical value can result in the field of parole prediction unless some method is found to objectify the methodology. Inmates cannot act in an advisory capacity to parole boards for reasons of public policy, nor would they consent to do so because of the ethical principles to which they adhere. It becomes necessary, therefore, to devise an objective methodology whereby the non-inmate can secure, as nearly

as may be, information analogous to that which is basic in inmates' estimates.

Several methods present themselves as possible, and it should not be inferred, from the fact that the remainder of the present study is given over to the questionnaire method, that the author is definitely and exclusively committed to this approach. Both the directed interview, for example, and the free-association questionnaire offer alternatively possible procedures. The "yes-no" questionnaire alone, however, is dealt with in this study.

Analysis and successive subdivision of the factors permit of the formulation of numerous questions directed at each individual attitude which it is desired to test. By the use of a large number of questions, it is possible to approach each point from a number of different angles. The choice of questions answerable by "yes" or "no" over such as would admit of a variety of answers is influenced partly by a desire for simplicity such as is requisite in view of the low intelligence-level of some of the subjects it is necessary to test, and partly to render possible the mathematical evaluation of the results.

A norm can be established for truthful responses by securing the cooperation of a group of inmates, who under adequate safeguards are willing to pledge themselves to answer truthfully. The technical difficulties of securing such coöperation on the part of a sufficiently large group are met in this investigation by means of the friendly contacts of the inmate investigators with other inmates and the reputation for loyalty and integrity which they enjoy among the inmates.

When a norm has been established for truthful responses by analysis of 100,000 answers by members of the Truth Group, it is easily possible to determine also the normal deviation from this standard which is due to lying. It is necessary only to administer the same questionnaire without assurances of anonymity to a comparable group of inmates who believe that their replies will have a bearing upon their chances for parole. Comparison of the answers of the two groups makes feasible the identification of those questions which are likely to be lied to and those which will, in general, be answered truthfully.

By extended investigation into the problem through tetrachoric correlation methods, it is possible, further, to identify those questions which furnish the best indices of the existence of the several factors. These best-adapted questions can then be combined into a short questionnaire suitable for group administration.

By administration of this short questionnaire to a comparable group of inmates who answer under conditions equivalent to those which will obtain in practical application of the procedure, the value of the questions as indices of the estimates can be measured quantitatively. Analysis shows that some factors can be readily determined by this means,

whereas others present much greater difficulties. It is found, indeed, that more accurate total results can be secured by the elimination of some of the factors found as elements in the estimates on the ground that their presence cannot be determined with sufficient accuracy by the questionnaire method.

Routine administration of the revised short questionnaire to 150 applicants for parole monthly is under way, and the results will, in time, constitute an experience table from which it will be possible to determine quantitatively the relative accuracy of this technique for determining parolability.

Although the present study is limited to consideration of the application of the attitude questionnaire in the field of parole prediction, its success in this field would be pregnant with meaning for other fields as well. If the methodology is valid in prediction of outcome on parole, it seems probable on *a priori* grounds that some similar method might be adapted to the prediction of probable outcomes of marriages, the prediction of probability of success in a profession, and many other similar fields.

It is hoped that further studies in the field of attitude-testing will clarify many points which are as yet obscure and that in this technique will be found a powerful implement for social control.

## ACKNOWLEDGMENTS

THIS investigation is unusual, perhaps, because of the conditions under which it was carried out. All of it was done with the most meager equipment at the Illinois State Penitentiary.

Although I have attempted throughout the body of the work to make clear my indebtedness to others, it may not be out of place to pass in review the men whose coöperation was indispensable in the successful prosecution of the undertaking.

To inmate X, who only at his own insistence remains anonymous, it is difficult to express my debt adequately. He has been my active co-worker from the inception of the study to its completion, and without him it could not have been undertaken at all. He has given not only of his time and effort, but has used to the utmost his prestige among his fellow-inmates in securing their coöperation—coöperation which no civilian could have enlisted. To him is due entire credit for all the statistical work in the investigation. He it was who cheerfully devoted himself to the task of mastering the procedure when it became necessary to acquire a new mathematical technique. Often he had to study at night in his cell the principles which he applied next day in the office.

The part played in the investigation by inmates W, Y, and Z is hardly less important than that of X, although somewhat less active. Without them, comparison among "hunches" of different investigators would not have been possible. Investigator W, who alone of these three was actually assigned as a member of the writer's staff, played an active part also in the administration of the questionnaire to the Truth Group and in the computations of the statistical material. His actuarial services were an indispensable part of the investigation.

The 57 members of the Truth Group, who were willing to accept our assurances at face value and to put in hard hours in the monotonous task of answering 1700 questions, have shown beyond question their desire to help society understand the delinquent. It is difficult to say whether the author feels more grateful to those men who, with keen and intelligent interest in the undertaking, coöperated to the fullest extent because of their flattering faith in the importance of the work, or to those who, in spite of their absolute skepticism, yet were willing to do as they were asked merely as a means of demonstrating their friendship and respect for the inmate staff. The 57 inmates who composed the Volunteer Group had a task less difficult but no less important.

To the eminent scholars who time after time have made the long trip to Stateville to inspect the work and to offer their invaluable criticisms and suggestions we desire to express our heartfelt thanks. To Professors Burgess, Sutherland, and Todd are due many suggestions in the general fields of sociology and criminology. Professors Thurstone and Cottrell have consented on several occasions to give up many hours that they

might instruct me in the difficult technique which bears the former's name. Nor can we evaluate the mental stimulation arising from the privilege of hours of conversation with such scholars as Professors Byron, Howard, Mowrer, and Gault of Northwestern, Professors Gillin and Stouffer of Wisconsin, Professor Franz Exner of the University of Munich, Dr. Luton Ackerson and Dr. C. C. Van Vechten Jr. of the State Department of Public Welfare, Mr. Ray L. Huff of the Federal Parole Department, and Dr. Ernest Bloomfield Zeisler of Chicago.

To the Division of Pardons and Paroles, and particularly to Mr. John Landesco, at whose suggestion the office of sociologist and actuary was created, and who has repeatedly insisted that this office should include, in addition to the routine work, a commission to carry on further research in the field of prediction, the writer offers his sincerest thanks. To the prison authorities, too, without whose coöperation the work could not have gone forward, is due sincere gratitude.

Last, but by no means least, the author wishes to express his sincere thanks to L.H., G.V., H.W., F.C., G.D., and M.F., the members of his office staff, whose conscientious attention to detail, indefatigable energy, and cheerful willingness to undertake any job, no matter how monotonous, have made the work not only possible but a real pleasure.

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# APPENDIX A

Table A 1

"HUNCH" SCORES OF INVESTIGATORS W AND Z ON ORIGINAL 150 SUBJECTS

Subject	W Score	Z Score	Subject	W Score	Z Score	Subject	W Score	Z Score
1	80	80	51	90	..	101	70	50
2	80	..	52	75	..	102	85	25
3	50	70	53	70	..	103	75	..
4	75	..	54	..	35	104	..	20
5	80	80	55	..	80	105	75	..
6	70	50	56	70	50	106	70	80
7	85	85	57	70	85	107	55	20
8	85	50	58	85	90	108	50	..
9	95	..	59	75	20	109	95	100
10	85	90	60	40	50	110	60	..
11	95	90	61	75	..	111	75	..
12	90	85	62	80	80	112	85	..
13	95	..	63	85	50	113	75	40
14	85	70	64	70	..	114	70	50
15	85	40	65	85	80	115	65	50
16	75	75	66	75	..	116	80	..
17	80	..	67	70	85	117	75	..
18	85	..	68	70	..	118	75	..
19	90	85	69	65	30	119	80	..
20	85	..	70	80	..	120	80	50
21	80	80	71	80	75	121	70	60
22	75	..	72	55	..	122	75	..
23	80	85	73	..	..	123	..	85
24	..	..	74	50	20	124	80	80
25	75	15	75	80	..	125	70	..
26	80	50	76	75	..	126	65	85
27	80	..	77	85	100	127	85	100
28	45	20	78	70	..	128	..	..
29	55	..	79	70	50	129	70	..
30	50	25	80	75	80	130	75	50
31	80	..	81	75	..	131	75	..
32	90	100	82	..	..	132	65	50
33	80	..	83	75	..	133	80	70
34	85	..	84	70	70	134	65	75
35	80	..	85	95	..	135	55	10
36	75	20	86	75	50	136	90	85
37	75	30	87	..	30	137	75	30
38	80	..	88	60	50	138	70	..
39	90	..	89	65	60	139	75	..
40	80	75	90	60	40	140	85	..
41	75	60	91	65	50	141	75	30
42	75	60	92	65	60	142	75	50
43	70	50	93	65	..	143	60	40
44	80	50	94	60	20	144	80	50
45	80	40	95	55	..	145	..	..
46	85	..	96	..	..	146	70	..
47	70	40	97	75	..	147	65	40
48	70	40	98	70	75	148	75	50
49	85	..	99	75	..	149	75	80
50	80	..	100	75	..	150	65	20

Table A 2  
BURGESS SCORES ON ORIGINAL 150 SUBJECTS

Subject	Burgess Score	Subject	Burgess Score	Subject	Burgess Score
1	56.1%	51	77.3%	101	32.9%
2	91.2%	52	32.9%	102	56.1%
3	32.9%	53	24.0%	103	65.9%
4	24.0%	54	24.0%	104	32.9%
5	77.3%	55	65.9%	105	56.1%
6	56.1%	56	84.9%	106	56.1%
7	56.1%	57	65.9%	107	65.9%
8	32.9%	58	91.2%	108	56.1%
9	97.8%	59	56.1%	109	97.8%
10	65.9%	60	56.1%	110	56.1%
11	56.1%	61	77.3%	111	32.9%
12	56.1%	62	56.1%	112	56.1%
13	56.1%	63	56.1%	113	77.3%
14	56.1%	64	56.1%	114	77.3%
15	56.1%	65	77.3%	115	77.3%
16	32.9%	66	56.1%	116	32.9%
17	84.9%	67	77.3%	117	32.9%
18	56.1%	68	91.2%	118	56.1%
19	56.1%	69	56.1%	119	32.9%
20	56.1%	70	56.1%	120	91.2%
21	77.3%	71	56.1%	121	56.1%
22	65.9%	72	32.9%	122	32.9%
23	56.1%	73	56.1%	123	77.3%
24	32.9%	74	32.9%	124	91.2%
25	32.9%	75	65.9%	125	24.0%
26	65.9%	76	65.9%	126	32.9%
27	56.1%	77	97.8%	127	91.2%
28	32.9%	78	32.9%	128	56.1%
29	56.1%	79	56.1%	129	24.0%
30	65.9%	80	91.2%	130	91.2%
31	97.8%	81	56.1%	131	77.3%
32	91.2%	82	32.9%	132	56.1%
33	77.3%	83	77.3%	133	56.1%
34	56.1%	84	56.1%	134	56.1%
35	65.9%	85	77.3%	135	56.1%
36	91.2%	86	24.0%	136	97.8%
37	32.9%	87	56.1%	137	32.9%
38	97.8%	88	56.1%	138	97.8%
39	97.8%	89	56.1%	139	56.1%
40	91.2%	90	56.1%	140	56.1%
41	56.1%	91	77.3%	141	97.8%
42	32.9%	92	77.3%	142	91.2%
43	32.9%	93	32.9%	143	56.1%
44	91.2%	94	24.0%	144	77.3%
45	56.1%	95	56.1%	145	56.1%
46	97.8%	96	56.1%	146	56.1%
47	56.1%	97	65.9%	147	32.9%
48	77.3%	98	56.1%	148	56.1%
49	56.1%	99	65.9%	149	56.1%
50	84.9%	100	84.9%	150	56.1%

# APPENDIX B

## Table B 1

SCORINGS OF 150 SUBJECTS ON THE BASIS OF 54 FACTORS  
BY INVESTIGATORS W, X, Y AND Z

Scores expressed in terms of favorable factors less unfavorable factors.

Subject	W	X	Y	Z	Subject	W	X	Y	Z	Subject	W	X	Y	Z
1	-4	-8	2	-10	51	36	14	14	..	101	12	6	-2	20
2	30	24	26	..	52	6	6	6	..	102	4	-10	2	2
3	-14	-20	-16	-28	53	4	-8	-10	..	103	12	18	8	..
4	-2	-14	-16	..	54	..	-20	-12	-10	104	..	2	2	2
5	0	10	12	-10	55	..	-2	6	22	105	4	6	16	..
6	-10	-4	6	-10	56	16	-2	8	10	106	0	34	-2	8
7	4	10	10	8	57	4	-2	8	0	107	-14	-8	-12	-22
8	-8	-10	-10	4	58	22	18	20	28	108	-4	2	0	..
9	38	32	32	..	59	2	6	-16	-26	109	32	36	36	34
10	10	4	24	6	60	4	0	24	18	110	-2	0	-2	..
11	34	26	34	28	61	16	16	30	..	111	4	0	12	..
12	10	-14	0	6	62	-2	16	18	14	112	2	4	-2	..
13	36	22	24	..	63	6	2	4	..	113	-6	0	16	-2
14	12	6	6	-12	64	6	6	8	..	114	26	12	20	8
15	16	14	8	-2	65	10	14	16	28	115	12	2	14	0
16	6	22	20	6	66	-6	-14	6	..	116	26	12	0	..
17	20	-2	10	..	67	14	14	24	24	117	14	-2	-2	..
18	20	12	24	..	68	4	12	18	..	118	12	12	16	..
19	20	16	24	20	69	-2	-2	8	-16	119	6	20	8	..
20	24	16	24	..	70	4	2	14	..	120	32	28	36	42
21	12	8	4	2	71	12	2	16	28	121	6	-6	14	-6
22	10	2	2	..	72	-6	-14	2	..	122	4	-2	0	..
23	24	2	12	26	73	6	16	22	..	123	16	34	22	18
24	..	-16	-12	..	74	-20	-26	-22	-14	124	20	24	24	32
25	4	14	10	0	75	22	12	24	..	125	..	2	-2	..
26	20	4	12	14	76	8	20	28	..	126	-2	8	4	14
27	4	6	22	..	77	36	36	40	30	127	30	16	34	26
28	-16	-26	-28	-26	78	2	14	16	..	128	..	-8	-10	..
29	-8	-6	2	..	79	2	10	24	-4	129	-4	-6	-6	..
30	-20	-18	-2	-10	80	4	12	28	18	130	14	14	28	28
31	24	26	38	..	81	10	2	6	..	131	8	6	20	..
32	38	36	38	40	82	..	-10	-12	..	132	4	12	14	26
33	12	-14	-2	..	83	10	4	22	..	133	14	-6	16	..
34	36	-4	2	..	84	0	-10	-4	10	134	-22	0	12	16
35	36	20	26	..	85	44	12	30	..	135	-34	-16	-2	-12
36	6	2	16	-4	86	-2	2	8	6	136	38	28	38	36
37	-2	-12	-6	18	87	..	0	-4	-6	137	2	14	4	4
38	36	6	26	..	88	-18	-12	2	-28	138	24	26	30	..
39	40	42	38	..	89	4	10	6	-22	139	10	12	24	..
40	12	20	28	18	90	-18	-18	-4	-6	140	28	22	26	..
41	8	2	16	-12	91	-4	-2	10	12	141	14	22	24	18
42	0	10	8	16	92	-6	-4	4	8	142	18	22	26	22
43	-6	-10	4	2	93	6	10	22	..	143	-16	-10	8	-2
44	18	-4	16	-10	94	4	6	18	20	144	32	18	24	..
45	12	0	8	-12	95	-4	4	6	..	145	..	-10	2	..
46	26	28	26	..	96	..	8	6	..	146	14	8	2	..
47	-2	-2	14	0	97	4	4	-2	..	147	-8	-6	4	..
48	-2	2	16	20	98	6	10	14	12	148	14	24	22	..
49	18	12	8	..	99	14	12	26	..	149	8	2	16	..
50	22	26	30	..	100	0	20	8	..	150	2	-2	8	..

## Predicting Criminality

## APPENDIX C

QUESTIONS INCORPORATED IN I701-QUESTION QUESTIONNAIRE,  
ARRANGED IN FACTOR ORDER

## FACTOR NUMBER 1

- I A 1. Are your brothers and sisters much better men and women than you?
- I A 2. Are your brothers and sisters much smarter than you?
- I A 3. Have your brothers and sisters much better personalities than you?
- I A 4. Are you about the equal of your brothers and sisters in general character?
- I A 5. Have your brothers and sisters done more for you than you have done for them?
- I A 6. Do your brothers and sisters send you money?
- I A 7. Have your brothers and sisters been loyal to you?
- I A 8. Are your brothers and sisters ignorant?
- I A 9. Are your brothers and sisters snobbish?
- I A 10. Are your brothers and sisters disloyal?
- I A 11. Are any of your brothers or sisters in any way to blame for your being here?
- I A 12. Have your brothers and sisters done all they should for you?
- I A 13. Did your brothers and sisters help you at your trial?
- I A 14. Do your brothers and sisters visit you or write to you?
- I A 15. Would your brothers and sisters do anything they could to help you?
- I A 16. Do you ever wish you had different brothers and sisters?
- I A 17. Do you ever have serious quarrels with your brothers and sisters?
- I A 18. Are you constantly having quarrels with your brothers and sisters?
- I A 19. Are you "not on speaking terms" with any of your brothers and sisters?
- I A 20. Would you "take a rap" for any of your brothers and sisters?
- I A 21. Would any of your brothers or sisters "take a rap" for you?
- I A 22. Do you envy any of your brothers or sisters?
- I A 23. Are your parents fonder of any of your brothers or sisters than they are of you?

## FACTOR NUMBER 2

- 2 AA 1. Are your parents the finest people in the world?
- 2 AA 2. Is your mother much sweeter than other mothers?
- 2 AA 3. Is your father much finer than most people?
- 2 AA 4. Would you exchange your parents for any other set?
- 2 AB 1. Is your father a worthy, upright man?
- 2 AB 2. Do you respect your father?
- 2 AB 3. Do you love your mother?
- 2 AC 1. Do you love your parents merely because they are your parents?
- 2 AC 2. Would you love your father and mother if they were not related to you?

- 2 AD 1. Is your father one of the finest men you know?
- 2 AD 2. Is your mother one of the sweetest ladies you know?
- 2 AD 3. If you could choose your parents, would you choose to have been born in some other family?
- 2 AE 1. Have your parents stuck to you through thick and thin?
- 2 AE 2. Could your parents have been more loyal than they have been?
- 2 BA 1. Are your parents just about average people?
- 2 BA 2. Would you choose your parents as outstanding people in the community at large?
- 2 BA 3. Are your parents pretty much like other parents?
- 2 C 1. Did your parents fail in their duty to you when you were a child?
- 2 C 2. Would you be here if your parents had brought you up differently?
- 2 C 3. Are your parents responsible for your being here?
- 2 C 4. Did your parents neglect your training when you were young?
- 2 C 5. Are your parents ignorant?
- 2 C 6. Do you wish your parents weren't so old fashioned?
- 2 C 7. Should your parents have helped you more than they did in your trouble?
- 2 C 8. Have your parents gone back on you?
- 2 C 9. Have your parents been disloyal to you?
- 2 C 10. Do you despise your parents?
- 2 C 11. Do you hate your parents?
- 2 C 12. Did your parents set you a good example?
- 2 C 13. Could your parents have made a better man of you than you are?

## FACTOR NUMBER 3

- 3 A 1. Is your father alive and living with your mother?
- 3 A 2. How old were you when your father died?
- 3 B 1. Is your mother alive and living with your father?
- 3 B 2. How old were you when your mother died?
- 3 C 1. Are your parents separated?
- 3 C 2. How old were you when your parents separated?
- 3 D 1. Has either of your parents remarried?
- 3 D 2. Do you like your step-parent?
- 3 D 3. Do you love your step-parent?
- 3 D 4. Do you hate your step-parent?
- 3 E 1. How old were you when you left home?
- 3 F 1. Do you love your father more than your mother?
- 3 F 2. Do you love your mother more than your father?
- 3 F 3. Do you think that the fact that your family is broken had anything to do with your being here?

## FACTOR NUMBER 4

- 4 A 1. Is your wife "the finest girl in the world?"
- 4 A 2. Is your wife about average in general personality?
- 4 A 3. Has your wife been loyal to you in your trouble?
- 4 A 4. Has your wife done everything she could to help you?
- 4 A 5. Is your wife in any way responsible for your being here?



## Predicting Criminality

- 4 A 6. Are you going back to your wife when you are released?
- 4 A 7. Do you like to stay at home with your wife?
- 4 A 8. Is your wife your superior in intelligence?
- 4 A 9. Is your wife your equal in intelligence?
- 4 A 10. Is your wife a much better woman than you are a man?
- 4 A 11. Did your wife try to "keep you straight?"
- 4 A 12. Do you have the same interests as your wife?
- 4 A 13. Is your wife a good housekeeper?
- 4 A 14. Do you get along well with your wife's family?
- 4 A 15. Does your wife get along well with your family?
- 4 A 16. Do you enjoy the shows your wife enjoys?
- 4 A 17. Will it be like a second honeymoon when you are able to rejoin your wife?
- 4 A 18. Will consideration of the way your wife has stuck by you have anything to do with your decision to go straight or otherwise?
- 4 A 19. Has your wife left you?

## FACTOR NUMBER 5

- 5 A 1. Has your father ever served time in prison?
- 5 A 2. Has your father ever been arrested by the police?
- 5 A 3. Has your mother ever served time in prison?
- 5 A 4. Has your mother ever been arrested by the police?
- 5 A 5. Have your parents ever engaged in criminal activities?
- 5 A 6. Have your parents broken the law?
- 5 B 1. Have any of your brothers or sisters ever served time in prison?
- 5 B 2. Have any of your brothers or sisters ever been arrested by the police?
- 5 B 3. Have any of your brothers or sisters ever engaged in criminal activities?
- 5 B 4. Have any of your brothers or sisters ever broken the law?
- 5 B 5. Have more than one of your brothers or sisters ever served time in prison?
- 5 B 6. Have more than one of your brothers or sisters ever been arrested?
- 5 B 7. Have more than one of your brothers or sisters engaged in criminal activities?
- 5 B 8. Have more than one of your brothers or sisters ever broken the law?
- 5 B 9. Have any of your uncles or cousins ever served time in prison?
- 5 B 10. Have any of your uncles or cousins ever been arrested?
- 5 B 11. Are you the only member of your family ever to be arrested?
- 5 B 12. Have other members of your family been arrested?
- 5 B 13. Have other members of your family been in trouble with the law?

## FACTOR NUMBER 6

- 6 A 1. Is your family wealthy?
- 6 A 2. Did your family indulge in many luxuries?
- 6 A 3. Was your family well-to-do?
- 6 A 4. Do you have most of the comforts at home?
- 6 A 5. Did your family operate more than one automobile?

- 6 A 6. Did your family own an automobile?
- 6 A 7. Did you have three or more servants at home?
- 6 A 8. Did you have any servants at home?
- 6 A 9. Was your family barely able to make ends meet?
- 6 A 10. Were there times when your family had to forego the comforts to which they were accustomed because of lack of funds?
- 6 A 11. Was your family poor?
- 6 A 12. Did the children in your family have to go to work as soon as possible to help support the home?
- 6 A 13. Did your parents need your earnings to help maintain the home?
- 6 A 14. Were your earnings necessary to supply the barest necessities in your home?
- 6 A 15. Were your parents able to give you all the education you desired?
- 6 A 16. Did you ever have to go hungry as a child because of lack of funds?
- 6 A 17. Were your parents able to supply you with nice clothes when you were a child?
- 6 A 18. Did you frequently have to wear hand-me-downs as a child because your parents couldn't afford to buy new clothes?
- 6 A 19. Did you have to go out and earn your own living as soon as you could get a job?
- 6 B 1. Is your home located in a residential district?
- 6 B 2. Is your home located in an industrial district?
- 6 B 3. Is your home located in a semi-industrial district?
- 6 B 4. Did your parents' house have a yard?
- 6 B 5. Did your home have more than four rooms?
- 6 B 6. Did your home have more than eight rooms?
- 6 B 7. Did more than one family live in your house?
- 6 B 8. Did you live in the slums?
- 6 B 9. Did you live in a tenement district?
- 6 B 10. Did you live in a boarding house district?
- 6 B 11. Did you share your room with your brother when you were a child?
- 6 B 12. Did you share your room with more than one brother when you were a child?
- 6 B 13. Did you and your parents eat in the kitchen all the time?
- 6 B 14. Were most of your neighbors well-to-do?
- 6 B 15. Were most of your neighbors laborers?
- 6 B 16. Were most of your neighbors very poor?
- 6 C 1. As a child were you sent to Sunday School and Church regularly?
- 6 C 2. Were you permitted to stay out later than 10 P. M. before you were 16?
- 6 C 3. Were your parents more strict with you than most parents are with their children?
- 6 C 4. Were you permitted to bring your chums into your home?
- 6 C 5. Were you encouraged to bring your chums into your home?
- 6 C 6. Did your parents attempt to pick your friends for you?
- 6 C 7. Did your parents frequently disapprove of your associates?
- 6 C 8. Did your parents ever disapprove of your associates?
- 6 C 9. Did your father ever talk to you and advise you?

- 6 C 10. When you started to work did your parents allow you to do pretty much as you pleased with your leisure time?
- 6 C 11. Were your parents worried when you remained out late at night?
- 6 C 12. Did your parents set you a good example by going to church themselves?
- 6 C 13. Did your parents frequently quarrel in your presence?
- 6 C 14. Would you attribute your present trouble to your parents?
- 6 C 15. Did your parents take a great deal of interest in your upbringing?
- 6 C 16. Were your parents so busy that they had little time to devote to your upbringing?
- 6 C 17. Were you left to shift for yourself during the day before you were 10?
- 6 C 18. Did your parents see to it that you attended school regularly?
- 6 C 19. Did either of your parents drink to excess?
- 6 C 20. Did you ever see either of your parents drunk?
- 6 C 21. Were your parents interested in your progress in school?
- 6 C 22. Did either parent ever instruct you on matters of sex and social hygiene?
- 6 C 23. Did your parents supervise the kind of literature you read?
- 6 C 24. Did your parents supervise the kind of shows you attended?
- 6 C 25. Did your parents make any attempt to make a pal of you?
- 6 C 26. Did your parents always want to meet any girls with whom you were going around?
- 6 C 27. Until you were sixteen or eighteen did your parents insist on your being home at a certain time in the evening?
- 6 C 28. As a child if you wanted to stay at the home of a friend for supper, was it necessary to get permission from your parents?
- 6 C 29. Could you stay out all night as a child without permission from your parents?
- 6 C 30. Did your parents give you spending money as a child?
- 6 C 31. Did your parents spank you as punishment?
- 6 C 32. Did your parents make you stay in the house as punishment?
- 6 C 33. Did your parents ever punish you?
- 6 C 34. Did your parents ever beat you severely as punishment?
- 6 D 1. Did you leave home because you were unable to get along with your parents?
- 6 D 2. Did you leave home because your parents separated?
- 6 D 3. Did you get sick and tired of your parents squabbling all the time?
- 6 D 4. Did you ever run away from home?
- 6 D 5. How old were you when you left home?
- 6 D 6. Did you leave home because your parents were not able to support you any longer?
- 6 E 1. Were you married and living with your family when you were arrested?
- 6 E 2. Were you living with your parents when you were arrested?
- 6 E 3. Did you have a fixed residence at the time of your arrest?
- 6 E 4. Did you live in a large town at the time of your arrest?
- 6 E 5. Did you live in a small town at the time of your arrest?

- 6 E 6. Did you live in the open country at the time of your arrest?
- 6 E 7. Did you live in a residential district at the time of your arrest?
- 6 E 8. Were you living in an industrial district at the time of your arrest?
- 6 E 9. Were you living in a boarding house district at the time of your arrest?
- 6 E 10. Were you living in a tenement district at the time of your arrest?
- 6 E 11. Were you living in a hotel district at the time of your arrest?
- 6 E 12. Have you ever been a hobo?
- 6 E 13. Were you a hobo at the time of your arrest?
- 6 E 14. Were you living in luxury at the time of your arrest?
- 6 E 15. Were you well-to-do at the time of your arrest?
- 6 E 16. Did you have a bank account at the time of your arrest?
- 6 E 17. Were you struggling to make ends meet at the time of your arrest?
- 6 E 18. Were you poor at the time of your arrest?
- 6 F 1. Are any of your associates "society people"?
- 6 F 2. Are most of your friends business men?
- 6 F 3. Are most of your friends clerks, bookkeepers, salesmen, etc.?
- 6 F 4. Are most of your friends laborers?
- 6 F 5. Are most of your friends wealthy?
- 6 F 6. Are most of your friends well-to-do?
- 6 F 7. Are most of your friends just about making a living?
- 6 F 8. Are most of your friends poor?
- 6 F 9. Are any of your friends so poor that they actually suffer want?
- 6 F 10. Do any of your friends receive charity relief?
- 6 F 11. Are most of your friends farmers?
- 6 F 12. Were you ever ashamed to be seen with any of your acquaintances because they were not socially your equals?
- 6 G 1. Were you born in a city?
- 6 G 2. Were you born in a small town?
- 6 G 3. Were you born in the country?
- 6 G 4. Were you born in a foreign country?
- 6 G 5. Did you live in a city as a child?
- 6 G 6. Did you live in a small town as a child?
- 6 G 7. Did you live in the country as a child?
- 6 G 8. Did you come to the United States as a grown man?
- 6 G 9. Were you living in a city when you were arrested?
- 6 G 10. Were you living in a small town when you were arrested?
- 6 G 11. Were you living in the country when you were arrested?
- 6 G 12. Have you lived in a city most of your life?
- 6 G 13. Have you lived in a small town most of your life?
- 6 G 14. Have you lived in the country most of your life?
- 6 H 1. Have most of your acquaintances been arrested by the police at some time?
- 6 H 2. Do you know many people who have been arrested by the police?
- 6 H 3. Do you know anyone who has been arrested by the police at some time?
- 6 H 4. Were any of your close friends ever arrested?
- 6 H 5. Were any of your friends arrested frequently by the police?

- 6H6. Do you know any "police characters"?
- 6H7. Have any of your friends on the outside police records?
- 6H8. How many of your acquaintances have ever been arrested?

#### FACTOR NUMBER 7

- 7A1. Were you living in the country when arrested?
- 7A2. Have you ever worked on a farm for more than three months?
- 7A3. Do you feel at home in the city?
- 7A4. Do you feel at home in the country?
- 7A5. Are you a city man?
- 7A6. Do you prefer the city to the country?
- 7A7. Do you milk a cow from the right side?
- 7A8. Do you milk a cow from the left side?
- 7A9. How many eggs does a good hen lay in a month?
- 7A10. Have you ever shucked corn?
- 7A11. Have you ever pitched hay?
- 7A12. How many times a day is a cow milked?
- 7A13. What is stored in a silo?
- 7A14. How many rows of kernels are there on an ear of corn?
- 7A15. Are you a "hoosier?"
- 7A16. Are you generally classed as a "hoosier?"
- 7A17. Have you ever been called a "hoosier?"
- 7A18. Do you look down on "hoosiers?"

#### FACTOR NUMBER 8

##### Army Alpha Test

#### FACTOR NUMBER 9

- 9AA1. Are you frightened of more things than most people?
- 9AA2. Were you considered a "scared cat" by your friends?
- 9AA3. Are you afraid of the dark?
- 9AA4. Are you afraid of being struck by lightning?
- 9AA5. Are you afraid of thunderstorms?
- 9AA6. Are you afraid of snakes?
- 9AA7. Are you afraid of dogs?
- 9AA8. Are you afraid of mice and rats?
- 9AA9. Do you become frightened when driving fast in an auto?
- 9AA10. Are you always worrying about accidents?
- 9AA11. Are you afraid to ride in an airplane?
- 9AA12. Do you worry about a possible wreck when you are on a train?
- 9AA13. Are you afraid to cross the ocean for fear of shipwreck?
- 9AA14. Are you afraid to go swimming for fear of drowning?
- 9AA15. Would you be afraid to go deer hunting for fear someone might shoot you accidentally?
- 9AA16. Do you get nervous crossing a street in heavy traffic?
- 9AA17. Are you nervous when driving a car?
- 9AA18. Do you get nervous in high places or when riding in elevators?

- 9 AA 19. Do you ever worry about the house, which you are in, burning?
- 9 AA 20. Are you afraid to change a fuse in a switch box for fear of being electrocuted?
- 9 AA 21. Do you get very frightened if someone comes up behind you and "scares" you?
- 9 AA 22. Are you afraid of ghosts?
- 9 AA 23. Would you be afraid to spend a night alone in a cemetery?
- 9 AA 24. Are you superstitious?
- 9 AA 25. Do you have many superstitions?
- 9 AA 26. Do you really believe that it is bad luck to light three cigarettes from a match, to walk under a ladder, to have a black cat cross your path, etc.?
- 9 AA 27. Do you cross your fingers when passing an undertaker's shop?
- 9 ABA 1. Did your friends outside ever make fun of you because you were more afraid of being arrested than they?
- 9 ABA 2. Have you ever been laughed at in prison for refusing to take chances?
- 9 ABA 3. Do you refrain from violating many prison rules because you are afraid of being caught?
- 9 ABA 4. Are you afraid of the hole?
- 9 ABA 5. When you violate a prison rule are you generally nervous until you can be absolutely sure you have not been reported?
- 9 ABA 6. Did you ever become so frightened that you would be arrested outside that you prayed?
- 9 ABA 7. Did you ever get so worried about going to the hole that you prayed?
- 9 ABB 1. Are you very much afraid of pain?
- 9 ABB 2. Do you worry very much when you have to go to the hospital for treatment?
- 9 ABB 3. If you had to have a boil lanced, would you fear the pain?
- 9 ABB 4. If you had to have a carbuncle cut out of your neck, would you be afraid of the pain?
- 9 ABB 5. If you had to have an operation for appendicitis would you be very much afraid?
- 9 ABB 6. Are you afraid to be vaccinated?
- 9 ABB 7. Are you afraid when you have a blood test taken?
- 9 ABB 8. Did you ever faint while being vaccinated or having a blood test taken?
- 9 ABB 9. Do you ever conceal the fact that you are not feeling well for fear that if you go to the doctor he will do something painful?
- 9 ABB 10. Are you afraid to take ether?
- 9 ABB 11. Are you afraid to go to the dentist?
- 9 ABB 12. Do you sometimes let a tooth ache and ache, for fear that if you go to the dentist the drilling will be unbearably painful?
- 9 ABB 13. If you had an infected tooth, and the dentist had no novocaine to deaden the pain, would you let him pull it?
- 9 ABB 14. Do you refrain from some athletic activities, such as football, for fear of getting hurt?

- 9 AC 1. Were you more subject to fear as a child than other children of your age?
- 9 AC 2. Were you afraid of the dark as a child?
- 9 AC 3. Were you known as a "scared cat" as a child?
- 9 AC 4. Were you as brave as most children when you were a child?
- 9 AC 5. Have you been subject to spells of fear all your life?
- 9 AC 6. Were you afraid of policemen as a child?
- 9 AC 7. Did you become awfully frightened as a child when told that the "Boogie Man" would get you?
- 9 AD 1. Did the fact that you were arrested and sent to prison cause you to become timid?
- 9 AD 2. Would you be afraid to take the chances now that you did before you were arrested?
- 9 AD 3. Are you as brave now as you were before you came to prison?
- 9 AD 4. Has prison in any sense made a coward of you?
- 9 AD 5. Do you sometimes feel that imprisonment has broken your spirit and that you haven't as much nerve as you used to have?
- 9 AD 6. Have any punishments you have had in prison really frightened you?
- 9 AD 7. Are you constantly afraid of being sent to the hole?
- 9 AD 8. Do you think prison has "broken your spirit?"
- 9 AD 9. Have you lost your nerve as a result of being in prison?
- 9 AD 10. Would you be as cool and collected while engaged in committing a crime now as you were before your arrest?
- 9 AD 11. If you were released, and did again commit a crime similar to that of which you were convicted, would you be more frightened than the last time?
- 9 B 1. Are you known as being particularly brave?
- 9 B 2. Are you known as being particularly timid?
- 9 B 3. Are you considered average so far as courage is concerned?
- 9 B 4. Do the suggestions of your friends often seem too dangerous to you?
- 9 B 5. Do you often make suggestions to your friends which they reject as too dangerous?
- 9 B 6. If your cell partner brought an electric stove into your cell would you be very frightened that you might be punished?
- 9 B 7. If you thought there was a good chance you had been reported for infraction of the prison rules during the day, would worrying about it keep you awake?
- 9 B 8. Do you often fear that you may have been written up only to find that your fears were groundless?
- 9 B 9. Are you bashful when meeting strangers?
- 9 B 10. Are you thoroughly at ease when you meet strangers?
- 9 B 11. Do you think of the consequences before doing something?
- 9 B 12. Are you afraid of a mad dog?
- 9 C 1. Do you often take long chances in order to show off your bravery?
- 9 C 2. As a child, did you often do things that were considered foolhardy?
- 9 C 3. Are you known as a dare-devil?

- 9 C 4. Are you considered reckless by others?
- 9 C 5. If you had planned a skating party and after arriving at the lake where you were to skate, you were told that the ice was dangerous, would you nevertheless insist on skating?
- 9 C 6. If you had a date with your girl and you learned at the last moment that the steering knuckle of the car you were to use might break at any moment, would you use the car anyway?
- 9 C 7. Were you known in your group outside as being likely to take big chances on being arrested?
- 9 C 8. Did you ever brag about the chances you took of being arrested?
- 9 C 9. Would you go up in an airplane with a pilot who had only been up once or twice before?
- 9 C 10. Did the rest of the fellows with whom you went out often have to restrain you from taking long chances?
- 9 C 11. Did you often suggest schemes to your friends which they considered too dangerous?
- 9 C 12. Were you ever beaten up by the police?
- 9 C 13. Do you believe in "taking your own chances"?
- 9 C 14. Do you try to get the other fellow to "take the draw"?
- 9 C 15. If you and another fellow had stolen a pie in the prison bake-shop, would you insist upon carrying it?
- 9 C 16. If you and another fellow went out on a job together, would you try to take over the dangerous end of the job?
- 9 C 17. Do you bring more than your share of contraband articles into your cell?
- 9 C 18. Do you bring less than your share of contraband articles into your cell?
- 9 C 19. Are you afraid of prison?
- 9 C 20. Are you afraid of the "hole"?
- 9 C 21. If you had a chance to escape would fear of the punishment if you were caught stop you?
- 9 C 22. Would you take a one out of three chance for liberty?

## FACTOR NUMBER 10

- 10 AA 1. Do you believe that being loyal to a friend is one of the more important things?
- 10 AA 2. Have you always been loyal to your friends?
- 10 AA 3. Do you hate a person who is disloyal?
- 10 AA 4. Do you expect your friends to be loyal?
- 10 AA 5. If your partner were convicted of a crime and you were not, would you stick with him and help in every way?
- 10 AA 6. Would you "go to hell" for your friends?
- 10 AA 7. Is it ever right to divulge a confidence?
- 10 AA 8. Do you believe a man should be loyal to his employer?
- 10 AA 9. Would you go to the hole on the rap of a friend of yours?
- 10 AA 10. If a friend of yours were in a fight would you take his part?
- 10 AA 11. Will you permit people to speak disparagingly of your friends?
- 10 AB 1. Do you like to make your own decisions?



## Predicting Criminality

- 10 AB 2. Have you ever left the decision to the other fellow?
- 10 AB 3. Do you always leave the decision to the other fellow?
- 10 AB 4. Is it possible to convince you differently after having once made up your mind?
- 10 AB 5. Are you willing to take full responsibility for your decisions?
- 10 AB 6. Do you consider yourself strong-minded?
- 10 AB 7. Do you consider yourself stubborn?
- 10 AB 8. Are you considered strong-minded by others?
- 10 AB 9. Are you considered bull-headed by others?
- 10 AB 10. Once having made a decision do you always go to the bitter end even if later circumstances tend to show that you may have been wrong?
- 10 AC 1. Is it your ambition to become a boss or a leader?
- 10 AC 2. Regardless of the field you choose to spend your life in, do you want to be a leader and a boss?
- 10 AC 3. Are you a "drifter"?
- 10 AC 4. Do you generally plan your life in advance or leave decisions to the last minute?
- 10 AC 5. Do you try to model your conduct on some plan you have thought out in advance?
- 10 AC 6. Do you consider yourself ambitious?
- 10 AC 7. Are you considered ambitious by others?
- 10 BA 1. Do you like to follow other people's suggestions?
- 10 BA 2. Would you rather follow someone's else suggestion than your own?
- 10 BA 3. Are you easily persuaded to do things the other fellow's way?
- 10 BA 4. Do you often follow "bad advice"?
- 10 BA 5. Would you go to almost any extent to be agreeable?
- 10 BA 6. Do you always try to "go along"?
- 10 BA 7. Would you go along with the mob rather than be known as a kill-joy?
- 10 BA 8. Do you ever do anything against your will just to be sociable?
- 10 BA 9. If your five best friends were all in favor of doing something that you thought was wrong, would you go along?
- 10 BA 10. If your five best friends thought something was wrong and you thought it was alright, would you go ahead?
- 10 BA 11. Are you highly impressionable?
- 10 BA 12. Are you easily persuaded?
- 10 BA 13. When you are in company with others, do you make the decision as to how the evening will be spent more frequently than they do?
- 10 BA 14. Are you easily picked on?
- 10 BB 1. Would you rather not commit yourself on a question involving something of importance?
- 10 BB 2. Do you find it difficult to make up your mind definitely about anything?
- 10 BB 3. Do you constantly change your mind about things?
- 10 BB 4. Are you apt to straddle the fence on most questions?
- 10 BB 5. Do you let other people do your thinking for you?
- 10 BB 6. Is it easy to persuade you that you are wrong about something?

- 10 BB 7. Do you generally see both sides of a question so clearly that it is hard for you to make up your mind?
- 10 BB 8. Do you allow circumstances to govern your life?
- 10 BB 9. Will you go to almost any lengths to avoid a squabble?
- 10 BB 10. Do you make resolutions and stick to them?
- 10 BB 11. Did you ever break a resolution?
- 10 BB 12. Did you ever live up to a resolution?
- 10 BB 13. Do you consider that your coming to prison has definitely stopped you from reaching your goal in life?
- 10 BB 14. Do you consider your imprisonment as merely a temporary interruption in your life plans?

## FACTOR NUMBER 11

- 11 A 1. Are you sometimes all pepped up?
- 11 A 2. Do you ever feel that you are sitting on top of the world?
- 11 A 3. Do you generally get quite enthusiastic over hearing some bit of good news?
- 11 A 4. When you are feeling good do you seem to just bubble over with good-fellowship?
- 11 A 5. Do you feel good most of the time?
- 11 A 6. Are you apt to feel fine one day and down in the dumps the next?
- 11 A 7. Do you get excited easily?
- 11 A 8. Does it sometimes seem like a pretty good world to you even if you are in prison?
- 11 A 9. Is it hard to make you feel really pepped up?
- 11 A 10. Do you often feel happy as a lark?
- 11 A 11. Are you often the life of the party in here?
- 11 A 12. Does getting a letter or a visit make you happy all day?
- 11 B 1. Do you ever get down in the dumps?
- 11 B 2. Do you frequently get down in the dumps?
- 11 B 3. Do you ever go for weeks just feeling sorry that things have gone the way they have?
- 11 B 4. Do disappointments make you feel bad all over?
- 11 B 5. Does hearing some unpleasant news affect you very much?
- 11 B 6. Are you considered a very moody person?
- 11 B 7. Have you ever considered committing suicide seriously?
- 11 B 8. Do things in general look pretty gloomy since coming to prison?
- 11 B 9. Are you apt to feel fine one day and down in the dumps the next?
- 11 B 10. Do you get very upset about things?
- 11 B 11. Do you worry much?
- 11 B 12. Do you ever think life is not worth living?
- 11 B 13. Do you ever lie down and have a good cry?
- 11 B 14. Do you ever get mad enough to bite nails?
- 11 B 15. Is it hard to make you feel really blue?
- 11 B 16. Have you ever had the blues for as much as a week at a time?
- 11 B 17. Are you apt to be radical about things?
- 11 C 1. Do little things ever affect you strongly?

## Predicting Criminality

- 11 C 2. Would something that didn't amount to much make you feel either very good or very bad?
- 11 C 3. Do you feel, after getting over a fit of the blues, that what made you feel blue was really rather insignificant?
- 11 C 4. Are you fairly even tempered?
- 11 C 5. Does it generally take really important things to upset you?

### FACTOR NUMBER 12

See factor number 11.

### FACTOR NUMBER 13

- 13 A 1. Do you enjoy arguing?
- 13 A 2. Do you spend much time arguing?
- 13 A 3. Do you have an argument nearly every day?
- 13 A 4. Do you think arguing about matters of fact is a good way to pass the time?
- 13 A 5. Do you think arguing about matters of fact is a good preventative against "blowing your top?"
- 13 A 6. If a man made a statement in your hearing about a matter of fact, and you knew he was wrong, would you call him on it?
- 13 A 7. Do you win more arguments than you lose?
- 13 A 8. Is it ever possible to convince you that you are wrong in an argument?
- 13 A 9. Do you frequently consult the almanac or the dictionary to prove an argument?
- 13 A 10. Have you ever looked up something in the almanac and then gone out and argued about it?
- 13 A 11. Do you often engage in arguments about such things as who won the National League pennant in 1929?
- 13 A 12. Have you ever gotten into difficulties because of your fondness for arguing?
- 13 A 13. If your boss made a statement you knew to be wrong would you call his mistake to his attention?
- 13 A 14. Do you correct people when they make mistakes in grammar?
- 13 A 15. Do you often dispute decisions in baseball or football games?

### FACTOR NUMBER 14

- 14 A 1. Are you interested in other people's quarrels?
- 14 A 2. Do you always like to find out all the facts about a dispute between two other people?
- 14 A 3. If two of your fellow inmates had a quarrel would you hate to miss the fun?
- 14 A 4. Do you like to see two people fight?
- 14 A 5. Do you get a bang out of hearing people argue?
- 14 A 6. If you heard two people arguing and you knew that they were both wrong could you restrain yourself from stepping in and telling them so?
- 14 B 1. Do you believe in minding your own business strictly?
- 14 B 2. Do you absolutely refuse to take any part in something that does not concern you directly?

- 14 B 3. Are you willing to settle arguments that are referred to you for decision?
- 14 B 4. Do you enjoy acting as judge in arguments?
- 14 B 5. If someone came up to you and started telling you his troubles, would you stop him?
- 14 B 6. If someone came up and started telling you his troubles would you sympathize with him?
- 14 B 7. Do you always agree with that party to a quarrel with whom you happen to be talking?
- 14 B 8. Do you get a bang out of listening to gossip?
- 14 B 9. Do you absolutely refuse to listen to gossip?
- 14 B 10. Are you at all concerned about the actions of others so long as they do not affect you?
- 14 B 11. If you knew a guy to be "wrong," would you tell others about it?
- 14 B 12. Do you give much advice to others?
- 14 B 13. Do you absolutely refuse to give advice to others?
- 14 B 14. Would you take part in someone's else argument under any circumstances?
- 14 B 15. If you are on a team, do you let the captain settle the disputes?
- 14 C 1. Do you enjoy "ribbing" others into an argument?
- 14 C 2. Have you ever promoted a quarrel between two people?
- 14 C 3. Do you ever repeat uncomplimentary remarks to the person about whom they were made?
- 14 C 4. Have you ever gone to two individuals and told each that the other was talking about him, in order to start an argument?
- 14 C 5. Have you ever steamed a guy into doing something he would not have done by himself?
- 14 C 6. Did you ever point out to a fellow that he was being taken advantage of?
- 14 C 7. Did you ever tell a man someone else was making a sucker out of him?
- 14 C 8. Do you frequently urge others to stand up for their rights?
- 14 C 9. Do you like to stir up trouble between others and then sit back and enjoy the fun?
- 14 C 10. Do you ever get a mob in back of you and then demand your rights?
- 14 C 11. Are you known as an agitator?
- 14 C 12. Do you ever agitate other people?
- 14 C 13. Are you often a leader in strikes and organized complaints?
- 14 C 14. Did you ever agitate a strike?
- 14 C 15. Did you ever organize sentiment against any individual so that no one would have anything to do with him?
- 14 C 16. If you found out a man was "wrong" would you tell other people to avoid him?
- 14 C 17. If you have trouble with someone, do you go around telling other people your side of the argument?
- 14 C 18. Do you ever think something out and then get other people to execute it?

- 14 C 19. Do you like to organize groups for the purpose of executing some plan?
- 14 C 20. Do you dislike undertaking anything without the help of others?
- 14 C 21. If conditions were bad in a shop in which you were working, would you attempt to organize the men to protest?
- 14 C 22. If you were approached to help organize the men in a shop to protest, would you do so?
- 14 C 23. If the majority of the men in your shop went on a strike, would you go on strike too?
- 14 C 24. If the majority of the men in your shop went on a strike, would you refuse to join them?
- 14 C 25. Would you consent to picket as a protest against unfairness?
- 14 C 26. If the manager of an athletic team did something of which you disapproved, would you try to get the rest of the team to walk off the field?
- 14 C 27. If a man were wrongfully put in the hole, would you attempt to organize the rest of the men in your group to concerted protest?
- 14 C 28. Have you ever started a petition to the authorities?
- 14 C 29. Have you ever helped get signatures to a petition?
- 14 C 30. If you got a dirty deal, would you make any attempt to get others to go along with you in getting it straightened out?
- 14 C 31. Have you ever gone over to the deputy to try and get someone else out of the hole?
- 14 C 32. Have you ever persuaded a keeper or foreman to intercede for somebody who was in the hole?
- 14 C 33. Have you ever started a general "booing?"
- 14 C 34. If a meal was poor, would you urge others to join you in "booing?"

#### FACTOR NUMBER 15

- 15 A 1. Do you consider yourself selfish?
- 15 A 2. Are you considered selfish by others?
- 15 A 3. Do you look out for your own welfare most of the time?
- 15 A 4. Would you sacrifice others to your own advancement?
- 15 A 5. Did you ever take a pinch for somebody else?
- 15 A 6. Would you under any circumstances take a pinch for somebody else?
- 15 A 7. Has anybody ever taken a pinch for you?
- 15 A 8. Would you permit somebody else to take your pinch?
- 15 A 9. Do you like to divide what you have with others?
- 15 A 10. Do you believe in looking out for A No. 1?
- 15 A 11. Do you believe a selfish man misses a great deal in life?
- 15 A 12. Do you think a man who is unselfish is a chump?
- 15 A 13. Do you ever think of the welfare of others?
- 15 A 14. Do you think often of the welfare of others?
- 15 A 15. Do you ever place the welfare of others ahead of your own?
- 15 A 16. Do you think "every man for himself" is a good motto?
- 15 B 1. Do you care much what other people think of you?
- 15 B 2. Do you ever let other people do your thinking for you?

- 15 B 3. Are you often influenced by what others may think of your actions?
- 15 B 4. Would you look out for yourself more if you were not afraid of being considered selfish?
- 15 B 5. Are your unselfish actions prompted merely by the desire to have others think well of you?
- 15 B 6. Would you spend more money than you really wished to in order not to be thought a "tight wad"?
- 15 B 7. When you put something out do you expect to get credit for it?
- 15 B 8. Do you always count on returns of some nature when you do an act of kindness to another?
- 15 B 9. Would you do an act of kindness to another if you knew positively that there was no chance of its being returned?
- 15 B 10. Do you ever do anything from any motive other than a selfish one?
- 15 B 11. Do you frequently do things for motives other than selfish ones?

## FACTOR NUMBER 16

- 16 AA 1. Are you more intelligent than most people?
- 16 AA 2. Do you consider yourself very bright?
- 16 AA 3. Are you a good deal smarter than the average run of people?
- 16 AA 4. Are you a good student?
- 16 AA 5. Are you a dumbbell?
- 16 AA 6. Is your intelligence just about average?
- 16 AA 7. Are you less intelligent than most of your friends?
- 16 AA 8. Do you catch on to new ideas quickly?
- 16 AA 9. Are you slow to grasp a new thought?
- 16 AA 10. Are you frequently disgusted with your mental slowness?
- 16 AB 1. Do you think you have an exceptionally pleasing personality?
- 16 AB 2. Have you a fairly pleasing personality?
- 16 AB 3. Are you a pretty "good fellow"?
- 16 AB 4. Is your personality just about average?
- 16 AB 5. Do you often think you have a rotten disposition?
- 16 AB 6. Have you a sunny temperament?
- 16 AB 7. Have you an ingrown disposition?
- 16 AB 8. Have you the kind of personality that is apt to get along nearly anywhere?
- 16 AC 1. Are you a better fighter than most people?
- 16 AC 2. Can you lick your weight in wildcats?
- 16 AC 3. Can you lick most people your own weight?
- 16 AC 4. Are you considerably stronger than most people?
- 16 AC 5. Are you a better athlete than most people?
- 16 AC 6. When you engage in sports with your friends are you so much superior to them that you stand out?
- 16 AC 7. Are you just about as good at athletic sports as the average?
- 16 AC 8. Can you defend yourself in a fist fight?
- 16 AC 9. Are you a weakling?
- 16 AC 10. Are you often embarrassed by your lack of physical ability in comparison with your friends?

- 16 AC 11. Do you refuse to take part in physical sports because you know you are not a good player?
- 16 AC 12. Would you rather play the games in which you excel rather than those in which you do not excel?
- 16 AD 1. Are you a pretty stylish dresser?
- 16 AD 2. Are you a good-looking person comparing yourself with others?
- 16 AD 3. Are you a good-looking person regardless of your clothes?
- 16 AD 4. Are you a very neat appearing person?
- 16 AD 5. Do you always keep yourself immaculately clean?
- 16 AD 6. Are you handsome?
- 16 AD 7. Do you present as good an appearance as most people?
- 16 AD 8. Have you any one physical characteristic, such as hair, eyes, etc., that you consider particularly attractive?
- 16 AD 9. Are you homely?
- 16 AD 10. Is your physical appearance so bad that it interferes with your getting along?
- 16 AD 11. Have you any marked physical defects, such as lameness?
- 16 AD 12. Do you make a bad first impression because of your poor physical appearance?
- 16 AE 1. Are you pretty much of a shot?
- 16 AE 2. Are you something of a leader in prison?
- 16 AE 3. Are you looked up to by other prisoners?
- 16 AE 4. Do you wield considerable influence with the other prisoners?
- 16 AE 5. Are you able to get things done in prison?
- 16 AE 6. Are you a "wheel"?
- 16 AE 7. Have you as much drag as the next fellow?
- 16 AE 8. Are you entirely without influence with other prisoners?
- 16 AE 9. Do you do your own time strictly?
- 16 AE 10. Have you absolutely no influence with the prison officials?
- 16 AE 11. If you wanted something done in prison would you know how to go about it?
- 16 AE 12. If you wanted a favor done in prison would you have to appeal to a "shot" to get it done?
- 16 AF 1. Are you a "ladykiller"?
- 16 AF 2. Can you take a girl away from nearly anybody?
- 16 AF 3. Do you find it fairly easy to get girls when you want them?
- 16 AF 4. Do girls run after you?
- 16 AF 5. Do you go over with girls just about as well as most people?
- 16 AF 6. Are you very poor at getting girls?
- 16 AF 7. Have you a good technique in getting girls?
- 16 AF 8. Is your technique with girls terrible?
- 16 AF 9. Do you often wish that you were really able to go over with girls?
- 16 BA 1. Do most people consider you very bright?
- 16 BA 2. Do most people consider you more intelligent than the average?
- 16 BA 3. Do other people consider you a good student?
- 16 BA 4. Do other people consider you a dumbbell?
- 16 BA 5. Do most people think you are just about average?
- 16 BA 6. Do most people look on you as about their equal in intelligence?

- r6 BA 7. Do most people slight your intelligence?
- r6 BB 1. Do other people think that you have a very pleasing personality?
- r6 BB 2. Do other people consider you an average good fellow?
- r6 BB 3. Do many other people think that you have a poor personality?
- r6 BC 1. Do other people look up to you because of your physical ability?
- r6 BC 2. Have you a reputation among others as an exceptionally good fighter?
- r6 BC 3. Do others look down on you because of your lack of physical ability?
- r6 BC 4. Do people look down on you because they consider you a weakling?
- r6 BD 1. Do other people admire you because of your good looks?
- r6 BD 2. Is the way you dress admired by other people?
- r6 BD 3. Are you frequently complimented on your physical appearance?
- r6 BD 4. Do other people consider you homely?
- r6 BD 5. Do other people think that you are a sloppy dresser?
- r6 BD 6. Do most people think that you have very poor taste in clothes?
- r6 BE 1. Do other people regard you as a "shot"?
- r6 BE 2. Do other people come to you to get favors done for them?
- r6 BE 3. Are you frequently asked to "use your influence" in behalf of others?
- r6 BE 4. Do most other people consider that you do not amount to much in prison?
- r6 BE 5. Do most people think that you are a person of little consequence?
- r6 BF 1. Are you admired by others as being an exceptionally good hand with the women?
- r6 BF 2. Have you the reputation of being quite a lady's man?
- r6 BF 3. Do other people think you are an awful bungler with girls?
- r6 BF 4. Do people hesitate to take you along on parties because they think you don't know how to act with women?
- r6 CA 1. Do you know many people who are brighter than you are?
- r6 CA 2. Do you know anybody who has more brains than you have?
- r6 CA 3. Are there many people whose judgment you would take in preference to your own?
- r6 CA 4. Do you know many people who have less brains than you have?
- r6 CB 1. Do you know many people with whom you would like to exchange personalities?
- r6 CB 2. Do you know many people whom you consider much better fellows than yourself?
- r6 CB 3. Do you know anyone who you think has a better personality than you have?
- r6 CB 4. Are there many people for whom you feel sorry because you feel that they have an unfortunate personality?
- r6 CB 5. Do you know anyone for whom you feel sorry because he has such an unfortunate personality?
- r6 CC 1. Do you know many people who are much better athletes than you?
- r6 CC 2. Do you know any person who you consider a better athlete than yourself?
- r6 CC 3. Do you look down on people who have no physical ability?



- 16 CC 4. Do you look down on weaklings?
- 16 CC 5. Do you look down on people who are not good fighters?
- 16 CD 1. Do you admire other people because they are good looking?
- 16 CD 2. Do you look down on homely people?
- 16 CD 3. Do you think most people have very poor taste in clothes?
- 16 CD 4. Do you look up to people who present a very fine physical appearance?
- 16 CD 5. Do you look down on people who have a very poor physical appearance?
- 16 CE 1. Do you admire "shots" very highly?
- 16 CE 2. Do you always try to do what a "shot" asks you to?
- 16 CE 3. Do you wish you were a "shot"?
- 16 CE 4. Do you look down on "shots"?
- 16 CE 5. Do you refuse to have anything to do with "shots"?
- 16 CF 1. Do you admire a man who is a much better hand with girls than you are?
- 16 CF 2. Do you have only contempt for people who consider themselves "lady's men"?
- 16 D 1. Have you the reputation of being conceited?
- 16 D 2. Have you ever been called conceited?
- 16 D 3. Have you ever lost a friend because of your conceit?
- 16 D 4. Have you ever gotten in trouble because of your conceit?
- 16 D 5. Has your conceit ever lead you to undertake something which you found that you couldn't handle?
- 16 D 6. Would you have been better off had you not been conceited?
- 16 D 7. Did you ever undertake an illegal enterprise because you were conceited enough to think that you could get by with it?

#### FACTOR NUMBER 17

- 17 AA 1. Did you get a raw deal from the police or other law enforcement agencies?
- 17 AA 2. Are most policemen dishonest?
- 17 AA 3. Did the police treat you brutally?
- 17 AA 4. Did any law enforcement agency ever make an earnest attempt to reform you?
- 17 AA 5. Could you have been reformed if you had been more intelligently handled?
- 17 AA 6. Were you given a square deal by society?
- 17 AA 7. Did you deserve to be sent down to the penitentiary?
- 17 AA 8. Were you born with two strikes on you?
- 17 AA 9. Were you ever given a real chance to make good?
- 17 AA 10. Does prison ever reform anybody?
- 17 AB 1. Has coming to prison increased your chances of making good?
- 17 AB 2. Has coming to prison decreased your chances of making good?
- 17 AB 3. Are you a better man now than when you were received in prison?
- 17 AB 4. Have you been reformed in prison?
- 17 AB 5. Have you become embittered in prison?
- 17 AB 6. Are penitentiaries necessary to the welfare of society?

- 17 AB 7. Has prison taught you to fear punishment?
- 17 AB 8. Has society kept you here too long?
- 17 AB 9. Have you more than paid your debt to society?
- 17 AB 10. Do most prison keepers do their duty as they see it?
- 17 AB 11. Is the penitentiary, on the whole, run intelligently?
- 17 AB 12. Is the penitentiary likely to reform anybody?
- 17 AB 13. Does the penitentiary system do anybody any good?
- 17 AB 14. Is the penitentiary too strict?
- 17 AB 15. Is the penitentiary strict enough?
- 17 AB 16. Should men in here be punished more severely?
- 17 AB 17. Should everybody be let out in not more than three years?
- 17 AB 18. Has prison taught you your lesson?
- 17 AB 19. If you discontinue stealing will it be primarily because of being sent to prison.
- 17 AB 20. Has prison degraded you morally?
- 17 AB 21. Does society owe you a debt?
- 17 AB 22. Are prisons a deterrent to the criminal?
- 17 BA 1. Do you believe that crime ever pays in the long run?
- 17 BA 2. Do you know anyone who has broken the law consistently for some time without detection?
- 17 BA 3. Are there more thieves outside of penitentiaries than inside?
- 17 BA 4. Are convicts merely unlucky?
- 17 BA 5. Is the main reason you do not intend to break the law any more because you think it is a losing proposition?
- 17 BA 6. Is crime ever necessary?
- 17 BA 7. Is stealing the sensible way of making a living?
- 17 BA 8. Do you think you could make a successful living for ten years by stealing?
- 17 BB 1. Is the main reason you do not intend to break the law any more because it is morally wrong?
- 17 BB 2. Have you any moral scruples against stealing?
- 17 BB 3. If something that you could steal was very necessary to your complete happiness and there was an excellent chance that you would not get caught, would you steal it?
- 17 BB 4. If you couldn't possibly afford something that you needed to "save your life", and could steal it with more than a reasonable chance of not getting caught, would you steal it?
- 17 BB 5. Do you believe that having moral scruples is a good excuse for not being a criminal?
- 17 BB 6. Are more people honest because they have moral scruples against stealing than because they are afraid of punishment?
- 17 BB 7. Are more people honest because they are afraid of punishment than because they have moral scruples against stealing?
- 17 BB 8. Do you think most business men are crooked?
- 17 BB 9. Do you think most politicians are crooked?
- 17 BB 10. Are most people on the outside crooked?
- 17 BB 11. How soon after coming to the penitentiary had you learned your lesson?

- 17 BB 12. Are you a better man now than when you came to prison?
- 17 BB 13. Are you a worse man now than when you came to prison?
- 17 BC 1. If you had known what life in prison was, would it have prevented you from committing a crime?
- 17 BC 2. Are you afraid of prison?
- 17 BC 3. Are you afraid of the "hole"?
- 17 BC 4. Is the main reason you do not intend to break the law any more because you are frightened?
- 17 BC 5. Would you rather die than come back to prison?
- 17 C 1. Have your rap-partners been tried and found loyal?
- 17 C 2. Have your rap-partners been tried and found not loyal?
- 17 C 3. Are your rap-partners responsible for your being here?
- 17 C 4. Would you have been here had it not been for your rap-partners?
- 17 C 5. Did the members of the group with which you associated outside do all they could to help you at the time of your trial?
- 17 C 6. Have the members of the group to which you belonged outside been loyal to you through your imprisonment?
- 17 C 7. Do you intend to have the same friends after your release as before your arrest?
- 17 C 8. Is your partner a much better fellow than you?
- 17 C 9. Do you feel that your partner got into trouble through the bad influence of others?
- 17 C 10. Has your partner done more for you since you have been here than you have been able to do for him?
- 17 C 11. Do you consider your partner one of your five best friends here?
- 17 C 12. Do you consider your partner one of your ten best friends here or outside?
- 17 C 13. Is your partner particularly outstanding in any quality, such as courage, character, intelligence, loyalty?
- 17 C 14. Is your association with certain individuals responsible for your being here?
- 17 C 15. Do you dislike your partner?
- 17 C 16. Do you ever wish your fellow inmates didn't know you and your co-defendant were partners?
- 17 C 17. Could you have escaped conviction if your partners had not bungled the job?
- 17 DAA 1. Have you improved your education since you entered prison?
- 17 DAA 2. Have you learned much since you entered prison?
- 17 DAA 3. Have you done much studying in prison?
- 17 DAA 4. Do you think you are much better fitted educationally to hold a job now than when you came to prison?
- 17 DAA 5. Has prison done you good mentally?
- 17 DAB 1. Has your imprisonment done you good morally?
- 17 DAB 2. Are you a better man now than when you entered prison?
- 17 DAB 3. Have you meditated much on moral questions?
- 17 DAB 4. Has prison experience had a good moral effect upon you?
- 17 DAB 5. Are the distinctions between right and wrong more real to you than when you came here?

- 17 DAC 1. Are you more sensible now than when you came to prison?
- 17 DAC 2. Has imprisonment taught you horse sense?
- 17 DAC 3. Do you think that you were foolish when you first came to prison?
- 17 DAC 4. Have you learned a lot of practical things since you came to prison?
- 17 DAD 1. Has your stay in prison improved your health?
- 17 DAD 2. Are you better off physically than when you came to prison?
- 17 DAD 3. Have the regular hours and wholesome diet of prison improved your health?
- 17 DBA 1. Have you become embittered in prison?
- 17 DBA 2. Has prison made you sore at the world?
- 17 DBA 3. Do you feel that it is impossible to get a square deal in society?
- 17 DBA 4. Did the police give you a raw deal?
- 17 DBA 5. Were you framed into prison?
- 17 DBA 6. Do you want to get even with the people responsible for your being here?
- 17 DBB 1. Do you feel that imprisonment has debased you morally?
- 17 DBB 2. Are you worse off mentally now than when you came to prison?
- 17 DBB 3. Has imprisonment lowered your moral outlook?
- 17 DBB 4. Do you think you have learned more bad things during your time in prison than you would have in a similar time outside?
- 17 DBB 5. Are prisons "hotbeds" of crime?
- 17 DBB 6. Does prison teach most people bad habits?
- 17 DBC 1. Do you feel that the years you have spent in prison, since they are lost from your normal development, will handicap you in earning your living?
- 17 DBC 2. Would you have been earning much higher wages now if you had not come to prison than it will be possible for you to secure on your release?
- 17 DBC 3. Has your coming to prison spoiled your chance of making a good living?
- 17 DBC 4. Are your friends on the outside much farther along in business than you will be when you get out?
- 17 DBC 5. Can you ever catch up economically to your friends outside?
- 17 DBD 1. Do you think you will always be labeled as an ex-convict?
- 17 DBD 2. Will the fact that you are an ex-convict make it impossible for you to get a job?
- 17 DBD 3. Will the fact that you are an ex-convict make it more difficult for you to get a job?
- 17 DBD 4. Do you believe that the police will persecute you because you are an ex-convict?
- 17 DBD 5. Will the stigma that attaches to having been in prison make it difficult for you to readjust yourself to society?
- 17 DBD 6. Do most ex-convicts get a square deal?
- 17 DBD 7. Will you make any attempt to keep secret the fact that you are an ex-convict?
- 17 DBD 8. Will you be ashamed of being an ex-convict?
- 17 DBD 9. Do you feel that the cards will be stacked against you because you are an ex-convict?

## Predicting Criminality

- 17 DC 1. Should you have been granted probation?
- 17 DC 2. Would probation have been effective?
- 17 DC 3. Could you have safely been liberated immediately after your arrest?
- 17 DC 4. Would you have learned your lesson had you been given probation?
- 17 DC 5. Is a "fix" necessary to get consideration in the courts?
- 17 DC 6. Do you think you could have returned to the same group of friends had you been granted probation?
- 17 E 1. Do you think most prison officials are about average mentally?
- 17 E 2. Do you think most prison officials are below the average mentally?
- 17 E 3. Has any prison official ever ridden you?
- 17 E 4. Could you ever become a real friend to the keeper in charge of you?
- 17 E 5. Are most prison keepers brutal?
- 17 E 6. Are most prison keepers ignorant?
- 17 E 7. Are most prison keepers dishonest?
- 17 E 8. Have you ever come in contact with an official in prison whose influence you think benefited you?
- 17 E 9. Is the prison intelligently run?

## FACTOR NUMBER 18

- 18 A 1. Do you generally plan far into the future?
- 18 A 2. Do you ever think more than a few months ahead?
- 18 A 3. Do you often think more than a few months ahead?
- 18 A 4. Do you spend much time planning for the future?
- 18 A 5. Do you live pretty much from day to day without giving the future much thought?
- 18 A 6. Did you generally spend all the money you earned?
- 18 A 7. Did you lay aside some money for a rainy day?
- 18 A 8. Have you ever thought of making provision for your old age?
- 18 A 9. Do you believe in taking out a life insurance policy as an investment?
- 18 A 10. Would you forego pleasures in the present in order to prepare for the future?
- 18 A 11. If you were offered a job which paid less than you could get elsewhere, but which offered greater chances of future advancement, would you accept it?
- 18 A 12. Do you regard the present period of your life mainly as a preparation for the future?
- 18 A 13. Do you think it is a waste of time to spend years learning some profession when you might be out working?
- 18 A 14. Would you be willing to get along on very little for some years if you had prospects of real advancement later?
- 18 A 15. Would you be willing to serve an apprenticeship in order to become a skilled craftsman?
- 18 A 16. Do you enjoy reading the biographies of self-made men?
- 18 A 17. Do you believe in being engaged to a girl a long time before marrying her?
- 18 A 18. Do you think any purpose in life is worth working years to attain?

- 18 A 19. Before you got married would you stop to think of the money necessary to raise the children you might have?
- 18 A 20. Do you think it is good sense to start putting money in the bank at the birth of a child in order to have a fund to pay for his education when he grows up?
- 18 A 21. Have you ever saved money for some definite purpose over a period of many months?
- 18 A 22. Do you believe in buying many things on the installment plan?
- 18 A 23. Do you regularly save your money to buy a new spring outfit of clothes?
- 18 A 24. Did you ever join a Christmas saving club?
- 18 A 25. Do you take precautions about your health now so that you won't have a sickly old age?
- 18 A 26. Do you have your teeth examined by a dentist periodically even if they are not hurting?
- 18 A 27. Do you have a general physical examination periodically even if you are not sick?
- 18 A 28. Do you ever plan business operations that extend more than a few months into the future?
- 18 A 29. Do you admire people who plan years ahead?
- 18 A 30. Have you ever dreamed about the future and worked with the idea of realizing that dream?
- 18 A 31. Are you always planning things for the future?
- 18 A 32. Have you any definite idea of just what you want to do ten years from now?
- 18 A 33. Have you made any plans covering ten years after your release?
- 18 A 34. Have you definitely chosen your life occupation?
- 18 A 35. Do you spend much time studying things now for which you have no immediate use but which you think may come in handy in the future?

## FACTOR NUMBER 19

- 19 A 1. Do you think that a good mouthpiece can beat most any rap?
- 19 A 2. Do you know what methods most lawyers use to beat raps?
- 19 A 3. Do you think that if you were a lawyer, you would beat more raps than you would lose?
- 19 A 4. Do you think that if you had known at the time of your arrest what you know now, that you could have beat the rap?
- 19 A 5. Did you ever employ a lawyer steadily to spring you on a writ every time you were arrested?
- 19 A 6. If a friend of yours were arrested by the police, would you know how to go about having him booked?
- 19 A 7. Have you ever been held by the police for more than 48 hours without being booked?
- 19 A 8. Can the police be forced to book a prisoner after 48 hours?
- 19 A 9. Can a man on parole get bail?
- 19 A 10. Did you ever have a professional bondsman?
- 19 A 11. Has the same individual gone bail for you more than once?

- 19 A 12. Have you ever asked for repeated continuances in order to tire witnesses?
- 19 A 13. Do you think the intimidation of witnesses is a good way to beat a rap?
- 19 A 14. Did you ever "cop a plea with the prosecutor" for a lesser sentence?
- 19 A 15. Did you ever succeed in having a felony waived in a case against you?
- 19 A 16. Have you ever had a witness intimidated?
- 19 B 1. Do you think that most cases can be fixed before coming to court?
- 19 B 2. If a close pal of yours were in jail charged with some crime and he had plenty of money, would you know how to go about putting in a fix for him?
- 19 B 3. Have you ever paid the police to drop a rap against you?
- 19 B 4. Have you ever paid anyone in the prosecutor's office to drop a rap against you?
- 19 B 5. Have you ever bought off prosecuting witnesses?
- 19 B 6. Do you think prosecuting witnesses are ever bought off?
- 19 B 7. Do you think you could beat nearly any rap if you had enough money?
- 19 B 8. Do you believe it is possible to convict a man in Illinois if he has all the money he needs?
- 19 B 9. Do you believe that everyone in the prosecutor's office is honest?
- 19 B 10. Do you believe that the clerk of the court could be paid to postpone a case?
- 19 B 11. Did you ever use political influence in beating a rap?
- 19 B 12. Do you think political influence counts for anything in squaring a rap in Chicago?
- 19 B 13. Do you think it would be difficult to convict a person who was powerful politically?
- 19 B 14. Do you think many cases are actually fixed?
- 19 B 15. Did you ever know of a case yourself where a member of the jury was bought?
- 19 B 16. Do you think many cases are beat because a juryman has been fixed?
- 19 C 1. Have you ever talked yourself out of an arrest?
- 19 C 2. Do you think it is frequently possible to talk oneself out of an arrest?
- 19 C 3. Do you think it is pretty easy to outtalk the coppers?
- 19 C 4. Would most people beat their raps if they knew how to talk their way out of trouble?
- 19 C 5. Do you know of any cases in which people have talked themselves out of arrests?
- 19 C 6. Do you always try to proposition the arresting officer when you are pinched?
- 19 C 7. Have you ever successfully propositioned an officer who was about to pinch you?
- 19 D 1. Have you had many dealings with the police?

- 19 D 2. Do you know the ropes concerning arrests by the police?
- 19 D 3. Do you know what to do when you are arrested by the police?
- 19 D 4. Do you know how to go about getting in touch with a lawyer when you have been arrested?
- 19 D 5. Do you know how to go about getting booked?
- 19 D 6. Do you know how to go about arranging for bail?
- 19 D 7. Do you know how to beat the show-up?
- 19 D 8. Do you have somebody upon whom you can call at once when you are arrested and who will get your immediate release?

## FACTOR NUMBER 20

- 20 A 1. Do you spend much time "scheming"?
- 20 A 2. Are you an "edge-hunter"?
- 20 A 3. Do you spend much time working out complicated plans in advance?
- 20 A 4. Can you often out-think the other fellow?
- 20 A 5. Could you earn a living by your wits?
- 20 A 6. Do you generally drive a pretty shrewd bargain?
- 20 A 7. Is it easy to take advantage of you in a business deal?
- 20 A 8. Do you generally come out on the long end of a bargain?
- 20 A 9. Would you accept a proposition in which you were getting much the best of the bargain?
- 20 A 10. Do you believe that a person should be penalized for being "dumb"?
- 20 A 11. Before entering on any proposition, do you weigh the odds for and against it carefully?
- 20 A 12. Would you do a favor for a stranger?
- 20 A 13. Would you do a favor for a friend if you knew that he would never be able to repay it?
- 20 A 14. Are you an easy mark for a con man?
- 20 B 1. Have you ever been caught on a sucker bet?
- 20 B 2. Have you ever caught others on a sucker bet?
- 20 B 3. Are suckers made to be clipped?
- 20 B 4. If you could "beat" the other fellow thru his failure to notice some "tech" would you do so?
- 20 B 5. Is there anything wrong in looking up the population of some city in the almanac and then going and making a bet on it with someone unwary enough to be willing to bet?
- 20 B 6. Are you a pretty good schemer?
- 20 B 7. Do you think that a fellow who bets on a sure thing is pretty low?
- 20 B 8. Is it proper to put crooked dice in a game if the fellows playing are fools enough to permit it?
- 20 B 9. If you had just heard that the Sox had won a ball game because you happened to be near a radio, and someone offered to bet against the Sox, would you accept the bet?
- 20 B 10. If you bet on a ball game and later found out that the other fellow had known the outcome of the game when he made the bet, would you feel that you had been cheated?
- 20 B 11. Would you enter into a deal of any kind without having some edge?
- 20 B 12. Should a smart guy ever go into a deal without getting the edge?



- 20 B 13. Can you imagine yourself taking a bet that you stood more than a reasonable chance of losing?
- 20 C 1. Did you ever "con" a person into a bet that you were nearly certain of winning?
- 20 C 2. If a guy is too dumb to look out for himself, do you think he should be given a break?
- 20 C 3. Are you able easily to detect a fellow who is pretty sharp?
- 20 C 4. Did you ever "outcon" a "con man"?
- 20 C 5. Would you like to "outcon" a "con man"?
- 20 C 6. Do you think a "con man" is a higher type of individual than a stick-up man?
- 20 C 7. Is it pretty easy for you to talk people out of things?
- 20 C 8. Do you enjoy talking people out of things?
- 20 C 9. Is your "line" your biggest asset?
- 20 C 10. Do you think it is easier to talk people out of their money than to take it away from them by violence?
- 20 C 11. Do you think a "con man" is low because he necessarily robs his friends whereas a highwayman robs strangers?
- 20 C 12. Do you think a man is justified in winning the confidence of others in order to "clip" them?
- 20 D 1. If you had something for which you had no use, would you peddle it?
- 20 D 2. Have you ever sold anything in prison?
- 20 D 3. Do you believe in selling things to others who cannot get the things that you have access to?
- 20 D 4. Are you known as a peddler in prison?
- 20 D 5. Can you keep yourself in smoking in prison by doing favors for others?
- 20 D 6. If you were working in the officer's kitchen would you be able to keep yourself in smoking and so forth by pushing out food?
- 20 D 7. Have you ever sold articles of food in prison?
- 20 D 8. Have you ever sold articles of clothing in prison?
- 20 D 9. Can you get by pretty well by conniving?
- 20 D 10. Do you have many prison connections?

#### FACTOR NUMBER 21

- 21 A 1. Do you make friends easily?
- 21 A 2. Do most people like you on sight?
- 21 A 3. Are you usually accepted at first glance into a strange group of people?
- 21 A 4. Do you make a good first impression?
- 21 A 5. Do you make any effort to please other people?
- 21 A 6. Do you like to meet strange people and make new friends?
- 21 A 7. Does it take you some time to win the friendship of others?
- 21 B 1. Do most people like you?
- 21 B 2. Are you often misunderstood?
- 21 B 3. Do you often pull boners which offend others?
- 21 B 4. Are you considered tactful?

- 21 B 5. Are you popular?
- 21 B 6. Are you unpopular?
- 21 B 7. Do most people seem to enjoy your company?
- 21 B 8. Have you many friends?
- 21 B 9. Have you many enemies?
- 21 B 10. Do you get along well with others?
- 21 B 11. Are you a good mixer?
- 21 CA 1. When you were a kid at school were you often able to talk yourself out of little difficulties?
- 21 CA 2. Have you a good line?
- 21 CA 3. Would you make a good salesman?
- 21 CA 4. Did you ever talk your way out of trouble with the police?
- 21 CA 5. Did you ever square a "rap" by "conning" a copper?
- 21 CA 6. Did you ever talk your way out of a pinch in prison?
- 21 CA 7. Are you a rather persuasive talker?
- 21 CA 8. Has your ability to persuade people ever helped you when in trouble?
- 21 CA 9. Do you generally "get the breaks"?
- 21 CA 10. Do you generally get "bad breaks" at the hands of others?
- 21 CA 11. Do you "go over" with girls?
- 21 CA 12. Do most officials here like you?
- 21 CA 13. Do most officials here dislike you?
- 21 CB 1. Is it generally difficult for you to land a job?
- 21 CB 2. Are you frequently chosen over others to be given a job?
- 21 CB 3. Did you ever get a job on the strength of your personality?
- 21 CB 4. Did you ever talk your way into a job?
- 21 CB 5. Did your line ever get you a job?
- 21 CB 6. Do you feel at a disadvantage in attempting to secure employment because you feel that others give a better impression than you do?
- 21 CB 7. Do you think you have a pleasant personality?

#### FACTOR NUMBER 22

- 22 A 1. Are you very particular about the people with whom you associate?
- 22 A 2. Do you "rap" to nearly everybody?
- 22 A 3. Is it easy to become friendly with you?
- 22 A 4. Do you have to know all about a man before you will accept him as a friend?
- 22 A 5. Are you careful in your choice of friends?
- 22 A 6. Are you careless in your choice of friends?
- 22 A 7. Do you take people at face value?
- 22 A 8. Do you have to know a man really well before you will go on a "job" with him?
- 22 A 9. Would you have to know a man very well before you would go into business with him?
- 22 A 10. Do you pick up casual acquaintances easily?
- 22 B 1. Do you have to know that a man is truthful before he could be a friend of yours?

## Predicting Criminality

- 22 B 2. Do you have to know that a man is loyal before he could be a friend of yours?
- 22 B 3. Does a man have to be a liberal spender before you will go out with him?
- 22 B 4. Would you go out with a man who insisted on your doing more than an equal share of the work?
- 22 B 5. Does a man have to be a real ladies' man before you will go out with him?
- 22 B 6. Would you go out with a fellow who was a "whiz" with the ladies?
- 22 B 7. Are all of your friends very well liked around the neighborhood and known as regular fellows?
- 22 B 8. Are most of your friends very well liked around the neighborhood or the community in which you lived?
- 22 B 9. Are your friends usually more intelligent than you?
- 22 B 10. Are your friends usually more educated than you?
- 22 B 11. Do the girls you meet generally pay more attention to your friends than they do to you?
- 22 B 12. Do you make friends only with wealthy people?
- 22 B 13. Do you make friends only with cultured people?
- 22 B 14. Do you make friends only with people of good reputation?
- 22 B 15. Do you make inquiries about a man's reputation before becoming friendly with him?
- 22 C 1. Are you a good mixer?
- 22 C 2. Do you like to be with people?
- 22 C 3. Are you often the life of the party?
- 22 C 4. Do you fit in with most any crowd at a party?
- 22 C 5. Do you get bored when you are alone?
- 22 C 6. Do you like to spend nearly all your time in the company of others?
- 22 C 7. Do you prefer your own company to that of others?
- 22 C 8. Do you like to stay pretty much by yourself?
- 22 C 9. Does the constant presence of other people often annoy you?
- 22 C 10. Does privacy mean a great deal to you?
- 22 C 11. Would you like to have more friends than you have?

## FACTOR NUMBER 23

- 23 A 1. Are you very particular about your belongings?
- 23 A 2. Are little comforts very important to you?
- 23 A 3. Are you "fussy" about your things?
- 23 A 4. Are you "choosy" about your personal belongings?
- 23 A 5. Can you sleep comfortably in a strange bed?
- 23 A 6. Do you have a special way of making your own bed?
- 23 A 7. Have you ever slept on the ground?
- 23 A 8. Can you sleep on a bench?
- 23 A 9. Have you ever been on a camping trip?
- 23 A 10. Can you eat almost anyone's cooking?
- 23 A 11. Are you very particular about the way your food is prepared?
- 23 A 12. Would you be much distressed if you had to eat eggs without salt?
- 23 A 13. Do you keep things just so in your cell?

- 23 A 14. Do you throw cigarette ashes on the floor in your cell?
- 23 A 15. Do you throw cigarette butts on the floor in your cell?
- 23 A 16. Do you pull all the clothes off the bed to remake it every day?
- 23 A 17. Do you have any particles of clothing which you wear only in the cell?
- 23 A 18. Do such things as bathrobes, slippers, etc., mean a great deal to you outside?
- 23 A 19. Did you have your own special chair in which you always sat outside?
- 23 A 20. Are you naturally neat?
- 23 A 21. Are you a good house-keeper?
- 23 A 22. Are you naturally sloppy about your possessions?
- 23 A 23. Are you uncomfortable when everything is not in its proper place in your home?
- 23 A 24. Are you more or less indifferent to the creature comforts?
- 23 A 25. Is it necessary to your happiness to have certain special clothes for certain special occasions?
- 23 A 26. Would you be terribly upset if the hot water were turned off in your home for a day?
- 23 A 27. Would you be very uncomfortable if the electric lights in your home went out of commission?
- 23 A 28. Would you be much upset if the telephone in your home went dead?
- 23 A 29. Do you have a regular place for everything you own in your home?
- 23 A 30. Do you always hang up your clothes before going to bed?
- 23 A 31. Are you careful about such things as reading only with the light coming over your shoulder?
- 23 A 32. Do you always keep your bureau drawers neatly arranged?
- 23 A 33. Do you mind if someone else uses your comb?
- 23 A 34. Do you always keep your shoes shined?
- 23 A 35. Do you always keep your trousers pressed?
- 23 A 36. Do you always keep your fingernails clean?
- 23 A 37. Do you carry a comb in your pocket?
- 23 A 38. Do you keep yourself shaved at all times on the outside?
- 23 A 39. Do you always keep a newspaper in its proper order when you read it?
- 23 A 40. Do you ever dog-ear the pages of a book to mark your place?
- 23 A 41. Do you always tear the date off the calendar promptly?
- 23 A 42. Do you have a regular time to wind your watch?
- 23 A 43. Do you wash your hands every time you use the toilet?
- 23 A 44. Are you particular about having seats in a certain location in a theater?
- 23 A 45. Do you always try to eat at one and the same table in a restaurant?
- 23 A 46. Are you very dependent upon the comforts of home?
- 23 A 47. Are you very uncomfortable when travelling because you miss the conveniences of home?
- 23 A 48. Are you a creature of habit?
- 23 A 49. Does it ruin your day if something comes up which upsets your regular routine?

## Predicting Criminality

### FACTOR NUMBER 24

- 24 AA 1. Did you attend any church regularly as a child?
- 24 AA 2. Did you attend any church regularly once a week before your arrest?
- 24 AA 3. Did you attend any church more than once a week outside?
- 24 AA 4. Did you feel very badly when circumstances prevented you from going to church on a Sunday?
- 24 AA 5. Did you take any active part in church work outside?
- 24 AA 6. Did you ever hold any position in a church as a grown man outside?
- 24 AA 7. Did you attend church only occasionally outside?
- 24 AA 8. Did you almost never go to church outside?
- 24 AB 1. Do you go to church every Sunday in prison?
- 24 AB 2. Do you go to church every other Sunday in prison?
- 24 AB 3. Do you feel very badly if anything prevents your going to church in the institution?
- 24 AB 4. Is your main reason for attending church in the institution the spiritual stimulation you receive?
- 24 AB 5. Is your main reason for attending church in the institution the entertainment offered?
- 24 AB 6. Do you go to church only once in a while in the institution?
- 24 AB 7. Do you never go to church in the institution?
- 24 BA 1. Are you religious?
- 24 BA 2. Do you believe in the existence of God?
- 24 BA 3. Do you believe that the Bible is the inspired word of God?
- 24 BA 4. Do you often read the Bible?
- 24 BA 5. Do you ever read the Bible?
- 24 BA 6. Do you believe that prayers are answered?
- 24 BA 7. Do you pray regularly?
- 24 BA 8. Do you believe in an after life?
- 24 BA 9. Do you believe in the existence of a Heaven and a Hell?
- 24 BA 10. Do you think that sin is punished by everlasting torment?
- 24 BA 11. Do you believe that the universe is directed by a Supreme Intelligence?
- 24 BA 12. Are your religious convictions profound and sincere?
- 24 BA 13. Do you attend religious services merely because it seems to be expected of you?
- 24 BA 14. Are most of your friends religious?
- 24 BA 15. Are your parents religious?
- 24 BA 16. Do you prefer a religious man to one who is an unbeliever?
- 24 BB 1. Do you believe it is hypocritical to be religious in prison?
- 24 BB 2. Do you think most of the inmates who attend religious services are hypocrites?
- 24 BB 3. Do you look down on the inmates who attend religious services in prison?
- 24 BB 4. Do you think that most of the men who go to church in prison only started after their conviction?
- 24 BB 5. Would you be ashamed to go to church here?
- 24 BB 6. Do you think people would "razz" you for being religious in prison?

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- 24 BB 7. Do people "razz" you for going to church here?
- 24 BB 8. Do you feel better after going to church here?
- 24 BB 9. Do you think most inmates feel better after going to church?
- 24 BB 10. Do you think it is right for a man who did not attend church outside to start going in here?
- 24 BB 11. Do you think anyone ever prayed his way out of jail?
- 24 BB 12. Do you have much faith in the sincerity of the religious convictions of the majority of the inmates who attend church services?
- 24 BB 13. Do you think attendance at church should be compulsory in prison?
- 24 BB 14. Would you go to church here if there were no entertainment with the service?
- 24 C 1. Have you ever met a religious leader whom you respected deeply?
- 24 C 2. Do you respect most of the religious leaders you know?
- 24 C 3. Do you respect every religious leader whom you know?
- 24 C 4. Has any religious leader had a profound influence on you since your incarceration?
- 24 C 5. Have you been won over to religion by the personality of any individual religious leader?
- 24 C 6. Do you think all religious leaders are hypocrites?
- 24 C 7. Do you think many religious leaders are hypocrites?
- 24 C 8. Do you think there are any hypocritical religious leaders?
- 24 C 9. Do you think ministers, priests, and rabbis believe all they preach?
- 24 C 10. Do you know any religious leaders who are scoundrels?
- 24 C 11. Have you been "saved" in a religious sense by any minister, priest, or rabbi since you have been in prison?
- 24 C 12. Have you prayed at all since you have been in prison?

### FACTOR NUMBER 25

See hospital records.

### FACTOR NUMBER 26

See hospital records.

### FACTOR NUMBER 27

- 27 A 1. Do you like to go out stepping every night?
- 27 A 2. Do you like to be known as a fast stepper?
- 27 A 3. Did you go out stepping as often as five times a week?
- 27 A 4. Did you generally visit two or three cabarets each evening?
- 27 A 5. Did you often stay out later than one o'clock in the morning?
- 27 A 6. Do you often give your favorite entertainer five dollars to sing some particular song?
- 27 A 7. Do you often give your favorite entertainer one dollar to sing your favorite song?
- 27 A 8. Have you ever given the orchestra as much as ten dollars for playing a song?
- 27 A 9. Do you often give the orchestra five dollars for playing a song?
- 27 A 10. Would you rather dance than eat?
- 27 A 11. Have you ever spent as much as twenty dollars in an amusement park?

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- 27 A 12. Do you spend as much as half your income in cabarets, etc.?
- 27 A 13. Do you spend as much as one-quarter of your income in cabarets, etc.?
- 27 A 14. Did you ever spend as much as twenty-five dollars for an evening's entertainment in a cabaret?
- 27 A 15. Do you often spend as much as fifteen dollars for an evening's entertainment in a cabaret?
- 27 A 16. Are cabarets, saloons, dance halls, etc., in any way responsible for your being here?
- 27 A 17. Do you often get drunk?
- 27 A 18. Do you want to fight when you get drunk?
- 27 B 1. Could you enjoy yourself without even a little night life?
- 27 B 2. Do you think that most people spend some time each week in cabarets, saloons, or dance halls?
- 27 B 3. Do you like to treat the crowd?
- 27 B 4. Are you known as a good tipper?
- 27 B 5. Do you often request the orchestra to play a particular song?
- 27 B 6. Are you a good dancer?
- 27 B 7. Do you like to dance?
- 27 B 8. Are you particular about the crowd in the places you go to spend an evening?
- 27 B 9. Are you known as a "good sport"?
- 27 B 10. Do you like to go to amusement parks?
- 27 B 11. Do you ever spend more than five dollars for an evening's entertainment?
- 27 B 12. Do you drink?
- 27 B 13. Do you ever get drunk?
- 27 C 1. Have you ever been in a cabaret?
- 27 C 2. Do you like to stay home and read a book and listen to the radio?
- 27 C 3. Do you like to be in bed by eleven o'clock?
- 27 C 4. Do you believe early to bed and early to rise is a good motto?
- 27 C 5. Do you have more fun during the day than in the evening?
- 27 DA 1. Do you go out at night for a good time?
- 27 DA 2. When you want to have a good time, do you go to cabarets and dance halls?
- 27 DA 3. Do you always have a good time when you go to cabarets, dance halls and saloons?
- 27 DA 4. Do you feel more like work after spending the evening at a cabaret?
- 27 DB 1. When you have nothing to do, do you go to cabarets, etc.?
- 27 DB 2. Do you go to cabarets primarily because you have nothing else to do?
- 27 DC 1. Do you like to have women with you when you go out at night?
- 27 DC 2. Do you go to cabarets because the girls with whom you have dates insist upon it?

## FACTOR NUMBER 28

- 28 A 1. Do you think sex is the most important thing in life?
- 28 A 2. Did you spend most of your leisure time chasing girls?

- 28 A 3. Did you go out with girls as often as five times a week?
- 28 A 4. Did you spend as much as half your earnings on girls?
- 28 A 5. Would you rather spend your time with women than men?
- 28 A 6. Can you enjoy a party at which there are no girls?
- 28 A 7. Did you choose your clothes largely with an eye to pleasing girls?
- 28 A 8. Were many of your activities indulged in for the purpose of making a hit with girls?
- 28 A 9. Is your being here the result of your spending too much money on girls?
- 28 A 10. Do you have "wet dreams" as often as once a week?
- 28 A 11. Were you considered a ladies' man?
- 28 A 12. Did you often go on stag parties?
- 28 B 1. Did you go out with girls as often as twice a week?
- 28 B 2. Did you spend as much as five dollars a week on girls?
- 28 B 3. Do you like to read stories dealing with sex?
- 28 B 4. Do you like to read "hot" stories?
- 28 B 5. Do you like to read love stories?
- 28 B 6. Are most of your friends girls?
- 28 B 7. Do you like movies with no sex interest?
- 28 B 8. Do you choose movies largely on account of suggestive titles?
- 28 C 1. Are you a woman hater?
- 28 C 2. Have you ever had sexual intercourse with a woman?
- 28 C 3. Do you much prefer the company of men to that of women?
- 28 C 4. Do you think that most men get in trouble because of a woman?
- 28 C 5. Have you always avoided women?
- 28 C 6. Do you think that most women are deceitful?
- 28 C 7. Have you ever had a venereal disease?
- 28 D 1. Have you ever loved a girl without thinking of sex?
- 28 D 2. Do you think "platonic friendships" are possible?
- 28 D 3. Have you ever lived with a woman not your wife?
- 28 D 4. Have you ever "kept" a woman?
- 28 D 5. Have you ever been a pimp?
- 28 D 6. Did you ever live in a house of ill-fame?
- 28 D 7. Do you think you have a stronger sex urge than most people?
- 28 D 8. Do you think you have a weaker sex urge than most people?
- 28 D 9. Are you popular with girls?
- 28 D 10. Do women "go crazy for you"?
- 28 D 11. Are you particularly attractive to girls?
- 28 D 12. Did you ever have two or more girls at one time?
- 28 D 13. Do you flirt with girls on the street?
- 28 D 14. Do you believe in having sex intercourse with girls before marriage?
- 28 D 15. Do you think sex relations are necessary to a well regulated life?

#### FACTOR NUMBER 29

- 29 AA 1. Did you ever pay \$75 or more for a suit?
- 29 AA 2. Did you regularly pay \$60 or more for suits?
- 29 AA 3. What is the most you ever paid for a suit?
- 29 AA 4. Did you ever pay \$75 or more for an overcoat?



- 29 AA 5. Do you regularly pay \$60 or more for an overcoat?
- 29 AA 6. What is the most you ever paid for an overcoat?
- 29 AA 7. Did you ever pay \$10 or more for a hat?
- 29 AA 8. Do you regularly pay \$8 or more for a hat?
- 29 AA 9. Did you ever pay \$15 or more for shoes?
- 29 AA 10. Do you regularly pay \$10 or more for shoes?
- 29 AA 11. Did you ever pay \$4 or more for a necktie?
- 29 AA 12. Do you regularly pay \$2.50 or more for neckties?
- 29 AB 1. Did you regularly pay from \$25 to \$45 for a suit?
- 29 AB 2. Did you regularly pay from \$20 to \$40 for an overcoat?
- 29 AB 3. Did you pay regularly from \$3 to \$5 for a hat?
- 29 AB 4. Did you regularly pay from \$4 to \$6 for shoes?
- 29 AB 5. Did you regularly pay from 75¢ to \$1.50 for neckties?
- 29 AC 1. Did you regularly pay less than \$25 for a suit?
- 29 AC 2. Did you regularly pay less than \$20 for an overcoat?
- 29 AC 3. Did you regularly pay less than \$3 for a hat?
- 29 AC 4. Did you regularly pay less than \$4 for shoes?
- 29 AD 1. Were most of your suits either blue, gray, or brown?
- 29 AD 2. Were most of your suits of other colors than blue, gray, or brown?
- 29 AD 3. What color overcoat did you usually wear?
- 29 AD 4. What color hat did you usually wear?
- 29 AD 5. Did you usually wear loud neckties?
- 29 AD 6. Did you usually wear conservative neckties?
- 29 AD 7. Did you regularly wear colored shirts?
- 29 AD 8. Did you regularly wear colored underwear?
- 29 AD 9. Did you regularly wear colored pajamas?
- 29 BAA 1. Did you ever own more than 4 suits at a time?
- 29 BAA 2. Did you regularly own more than 4 suits at a time?
- 29 BAA 3. Did you buy more than 4 suits a year?
- 29 BAB 1. Did you ever own more than 4 pairs of shoes at a time?
- 29 BAB 2. Did you regularly own more than 4 pairs of shoes at a time?
- 29 BAB 3. Did you buy more than 6 pairs of shoes a year?
- 29 BAC 1. Did you ever own more than 2 hats at a time?
- 29 BAC 2. Did you regularly own more than 2 hats at a time?
- 29 BAC 3. Did you buy more than 4 hats a year?
- 29 BAD 1. Did you buy more than 3 ties a month?
- 29 BB 1. Did you buy from 1 to 3 suits a year?
- 29 BB 2. Did an overcoat last you from 1 to 3 years?
- 29 BB 3. Did you buy from 1 to 3 hats a year?
- 29 BB 4. Did you buy from 2 to 5 pairs of shoes a year?
- 29 BB 5. Did you buy from 5 to 15 neckties a year?
- 29 BC 1. Did you buy less than 2 suits a year?
- 29 BC 2. Did you buy less than 2 pairs of shoes a year?
- 29 BC 3. Did an overcoat last you more than 3 years?
- 29 BC 4. Did a hat last you more than 2 years?
- 29 BC 5. Did you buy only what clothes were absolutely necessary?
- 29 BC 6. Did you cut down on clothes so that you could spend the money on something else?

- 29 CA 1. Did you wear one suit every day including Sundays?
- 29 CA 2. Did you make a distinction between the clothing worn on Sundays and that worn on week-days?
- 29 CB 1. Did you have a suit which you wore on Sundays only?
- 29 CB 2. Did you often wear your Sunday suit on week-days?
- 29 CB 3. Did you wear entirely different clothing on Sundays from what you wore during the week?
- 29 CC 1. Did you have a suit which you wore in the evening only?
- 29 CC 2. Did you change clothing every evening?
- 29 CC 3. Did you frequently change clothing in the evening?
- 29 CC 4. Did you ever change clothing in the evening?
- 29 CD 1. Did you ever wear a suit two years or longer?
- 29 CD 2. Did you frequently wear a suit two years or longer?
- 29 CD 3. Did you ever wear an overcoat five years or longer?
- 29 CD 4. Did you often wear an overcoat five years or longer?
- 29 CD 5. Did you ever wear a hat two years or longer?
- 29 CD 6. Did you often wear a hat two years or longer?
- 29 CD 7. Did you ever wear a pair of shoes a year or longer?
- 29 CD 8. Did you often wear a pair of shoes a year or longer?
- 29 CE 1. Did you ever have a suit which you wore only a month before discarding?
- 29 CE 2. Did you frequently wear a suit only a month before discarding it?
- 29 CE 3. Did you ever have a suit which you wore only a few times?
- 29 CE 4. Do you frequently wear your suits only a few times?
- 29 CE 5. Did you ever have an overcoat which you wore only a few times?
- 29 CE 6. Did you frequently wear your overcoats only a few times before discarding them?
- 29 CE 7. Did you ever have a hat that you wore only a few times before discarding?
- 29 CE 8. Do you often buy hats and then only wear them a few times?
- 29 CE 9. Do you often wear shoes only a few times before discarding?
- 29 CE 10. Did you ever get rid of a pair of shoes after wearing them only a few times?
- 29 DA 1. Do you spend more on clothes than you do on any one other item?
- 29 DA 2. Is clothing your largest expense?
- 29 DA 3. Is there any other single item on which you spend more than you do for clothes?
- 29 DB 1. Do you spend less than 25% of your total income for clothes?
- 29 DB 2. Do you spend more than 25% of your total income for clothes?
- 29 DB 3. If you were earning \$25.00 a week, would you spend more than \$300.00 a year on clothes?
- 29 DB 4. If you were earning \$25.00 a week, would you spend more than \$25.00 a month on clothes?
- 29 DB 5. If you were earning \$25.00 a week, would you spend more than \$6.00 a week on clothes?
- 29 DC 1. Do your clothes represent the smallest item in your budget?
- 29 DC 2. Do you buy a new suit only when your present one is absolutely unwearable?

- 29 DC 3. Do you set aside a fraction of what you earn for the purpose of buying clothes?
- 29 DC 4. Do you spend less than 10% of your income on clothes?
- 29 DC 5. If you were earning \$25.00 a week, would you spend less than \$125.00 a year on clothes?
- 29 DC 6. If you were earning \$25.00 a week, would you spend less than \$10.00 a month on clothes?
- 29 DC 7. If you were earning \$25.00 a week, would you spend less than \$2.50 a week on clothes?
- 29 EA 1. Are you really interested in clothes themselves?
- 29 EA 2. Were you ever so taken by an article of clothing in a shop window that you walked right in and bought it?
- 29 EA 3. Do you often see articles of clothing that impress you as though they were just made for you?
- 29 EA 4. Were you ever so taken by some article of clothing that you made a considerable sacrifice in order to be able to buy it?
- 29 EA 5. Do you like to have a wide variety of clothes to choose from when dressing?
- 29 EA 6. Does the style or cut of a suit make very much difference to you?
- 29 EA 7. Do you spend much time choosing a new suit or overcoat?
- 29 EA 8. Do you have a very definite idea of just what you want when you go to buy a suit or overcoat?
- 29 EA 9. Have you ever walked out of a store without buying a suit because nothing they had in stock pleased you?
- 29 EA 10. Do you spend much time talking about clothes?
- 29 EB 1. Do you dress as neatly as possible merely for your own satisfaction?
- 29 EB 2. Do you care particularly what others think of your appearance?
- 29 EB 3. So long as you, yourself, are satisfied with your appearance, is that all that matters to you?
- 29 EB 4. Are you inclined to have set ideas about your clothes?
- 29 EB 5. Do you make much effort to follow the changes in fashion?
- 29 EB 6. Would you discard a suit or overcoat which you liked because it was out of style?
- 29 EC 1. Do you think being well-dressed helps a man to get and hold a job?
- 29 EC 2. Are you interested in your clothes chiefly because you feel that a neat appearance is a business asset?
- 29 EC 3. Do you choose your clothes with an eye to what your employer may think of your appearance?
- 29 EC 4. Have you ever been given a job because you were more neatly dressed than the other applicants?
- 29 ED 1. Do you choose your clothes primarily to attract women?
- 29 ED 2. Are you known as a "snappy dresser"?
- 29 ED 3. Do thoughts of what girls will think of your appearance influence your choice of clothes?
- 29 ED 4. Did you ever let your girl help you select a suit?
- 29 ED 5. Do you often accept suggestions from girls on what style of clothes you should wear?
- 29 ED 6. Do you like to have girls comment favorably on your clothes?

## FACTOR NUMBER 30

- 30 A 1. Have you lived most of your life in one house?
- 30 A 2. Have you lived most of your life in one town?
- 30 A 3. Have you lived as much as twenty years in one place?
- 30 A 4. Have you lived as much as ten years in one place?
- 30 A 5. Have you lived as much as five years in one place?
- 30 A 6. Do you like to live in one place for a long time?
- 30 A 7. Do you like to change your place of residence frequently?
- 30 A 8. Do you get tired of living in one place for long?
- 30 A 9. Do you like to live a few months in one place and then move on to another?
- 30 A 10. Are you a natural born rover?
- 30 A 11. Do you feel that you would stagnate if you had to live in one place for long?
- 30 A 12. Have you had more than two different residences in your life?
- 30 A 13. Have you had more than three different residences in your life?
- 30 A 14. Have you had more than five different residences in your life?
- 30 A 15. Have you had more than ten different residences in your life?
- 30 A 16. Have you had more than twenty different residences in your life?
- 30 A 17. Are you a home lover?
- 30 A 18. Do you feel lost when you get away from your own town or city?
- 30 B 1. Have you ever been on the road?
- 30 B 2. Have you travelled a great deal?
- 30 B 3. Do you like to travel?
- 30 B 4. Were you in the habit of leaving your home every so often for a trip?
- 30 B 5. Have you been in more than thirty states of the union?
- 30 B 6. Have you been in more than twenty states of the union?
- 30 B 7. Have you been in more than ten states of the union?
- 30 B 8. Do you like to pull up stakes and move to a different place periodically?
- 30 B 9. Have you ever travelled with a carnival, fair, or show?
- 30 B 10. Would you be uncomfortable if you had to remain in one town for very long?
- 30 B 11. Is your home wherever you hang your hat?
- 30 B 12. Do you feel equally at home no matter where you may happen to be?
- 30 B 13. Have you ever hopped freights around the country?
- 30 B 14. Have you ever hitch-hiked around the country?
- 30 B 15. Have you ever been a hobo?
- 30 B 16. Have you ever been a bindle-stiff?
- 30 B 17. Have you ever roamed around the country taking jobs for short periods at different places?
- 30 B 18. Does the life of a hobo appeal to you?
- 30 B 19. Do you get wanderlust every so often?
- 30 B 20. Do you like to have a change of scenery every few months?
- 30 B 21. Do you think that a man who has never been out of his home town has missed half his life?

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- 30 B 22. Does it get on your nerves to remain long in one town?
- 30 B 23. Would you like to travel most the rest of your life?
- 30 B 24. Do you get homesick when you are away from home?
- 30 B 25. Do you ever get tired of travelling and want to settle down in one place?
- 30 C 1. Do you feel absolutely lost outside of your own home town?
- 30 C 2. Are all your associations and connections in one town?
- 30 C 3. Do you feel that you are an integral part of the community in any town?
- 30 C 4. Do you regard any one place definitely as home, and feel that any absence from it is merely temporary?
- 30 C 5. Do you feel that all your interests lie in some one town and that you have no business elsewhere?
- 30 C 6. Could you imagine yourself living elsewhere than in your home town?
- 30 C 7. Would it be very difficult for you to pull up stakes and move from your present town?
- 30 C 8. Would you feel like an absolute stranger any place but in your home town?
- 30 C 9. Have you ever considered moving from the town in which you live?
- 30 C 10. Do you think you could get along elsewhere than in your own town?
- 30 C 11. Has your family lived in the same town for more than two generations?
- 30 C 12. Are you very much attached to your neighbors?
- 30 C 13. Are you friendly with most of your close neighbors?
- 30 C 14. Do you call your neighbors by their first names?
- 30 C 15. Have you a real home anywhere?
- 30 C 16. Have you a great many ties which bind you to your home?

## FACTOR NUMBER 31

- 31 A 1. How many working hours a day would you consider ideal?
- 31 A 2. Would you be better satisfied working for only half a day than for a whole day?
- 31 A 3. Do you do any work during your leisure time?
- 31 A 4. Would you enjoy never having to do any work?
- 31 A 5. Would you like to work only when you felt like it?
- 31 A 6. Could you be happy with nothing to do but rest?
- 31 A 7. If you were a member of a ball team would you like to practice?
- 31 BA 1. Do you get tired of doing nothing?
- 31 BA 2. Do you like to work because doing nothing bores you?
- 31 BA 3. Do you often "wish you had something to do"?
- 31 BA 4. Would you do any kind of work if a position in your field was not open to you?
- 31 BA 5. Would you rather do extremely heavy work than have nothing to do?
- 31 BB 1. Do you honestly enjoy doing work?
- 31 BB 2. Do you interest yourself in your work?

- 31 BB 3. Could you enjoy work in which you were not interested?
- 31 BB 4. Would you consider yourself industrious?
- 31 BB 5. Have you ever been known as industrious?
- 31 BB 6. Would you like to be known as industrious?
- 31 BB 7. Do you prefer physical work to mental?
- 31 BB 8. Do you prefer mental work to physical?
- 31 BC 1. Do you work only because it is necessary for the upkeep of your home?
- 31 BC 2. Would you work if you had money enough to keep you comfortably for the rest of your life?
- 31 BC 3. Would you like to take it easy for the rest of your life?
- 31 C 1. Would you be happy just taking it easy?
- 31 C 2. Have you ever been able to talk yourself out of doing something you were told to do?
- 31 C 3. If you had an unpleasant job to do, would you make some effort to get out of doing it?
- 31 C 4. Would you rather work yourself or direct others?
- 31 C 5. Do you think a lazy man would make a good boss?
- 31 C 6. Would you like to have a lazy man for a boss?
- 31 C 7. If you were working with a group who were slacking, would you slack?
- 31 C 8. If you were working with a group who were working harder than necessary, would you take it easy?
- 31 C 9. Are you able to recognize the percentage in not having to do any work?
- 31 C 10. Were you considered lazy in school?
- 31 C 11. Are you lazier than the average?
- 31 C 12. Is your present trouble in any way due to laziness?
- 31 C 13. Would you have made a bigger success of life if you had been willing to work harder?
- 31 C 14. Do you consider it dishonorable to work?
- 31 C 15. Do you think all working "johns" are saps?
- 31 C 16. Do you have any hobbies?
- 31 C 17. Do you do much work on your own initiative?
- 31 C 18. Do you have to force yourself to work?
- 31 C 19. Do you think work is a blessing?
- 31 C 20. Would you go crazy if you had nothing to do?
- 31 C 21. Do you wish there were bigger opportunities for work in the penitentiary?
- 31 C 22. Are you forced to work hard in the penitentiary?

## FACTOR NUMBER 32

- 32 A 1. How old were you when you got your first job?
- 32 A 2. Did you ever have a job while going to school?
- 32 B 1. How many years did you work?
- 32 B 2. Have you worked ever since leaving school?
- 32 B 3. What was the longest you ever worked in one place?
- 32 C 1. Have you held more than five jobs?

- 32 C 2. Have you held more than ten jobs?
- 32 C 3. How many different jobs have you had?
- 32 D 1. Did you work regularly?
- 32 D 2. Were there frequent intervals between your jobs?
- 32 D 3. Were you often without work?
- 32 D 4. Are you a steady worker?
- 32 D 5. Have you ever been without work?
- 32 D 6. Have you often been without work?
- 32 E 1. Were you fired from your first job?
- 32 E 2. Have you been fired from more than two jobs?
- 32 E 3. Have you been fired from more than five jobs?
- 32 E 4. Were you ever fired from a job?
- 32 E 5. Do you generally get along well with your employer?
- 32 E 6. Do you often have difficulty with your employer?
- 32 E 7. Have most of your jobs been in the same line of work?

#### FACTOR NUMBER 33

- 33 AA 1. Could you hold a job as a bookkeeper?
- 33 AA 2. Could you hold a job as a stenographer?
- 33 AA 3. Could you hold a job as a secretary?
- 33 AA 4. Could you hold a job as chief clerk in an office?
- 33 AA 5. Could you hold a clerical position?
- 33 AA 6. Could you hold a job as a file clerk?
- 33 AA 7. Could you hold a job as a salesman?
- 33 AA 8. Could you hold a "white-collar job"?
- 33 AA 9. Have you any ability along clerical lines?
- 33 AA 10. Could you hold a job as a hotel clerk?
- 33 AB 1. Have you any skilled trade?
- 33 AB 2. Did you ever work at any skilled trade outside?
- 33 AB 3. Could you hold any kind of a job that could be classified as skilled labor?
- 33 AB 4. Have you the ability to hold any job other than pure unskilled work?
- 33 AB 5. Have you any special abilities which enable you to hold a job which most people would be unable to handle?
- 33 AB 6. Have you ever done work of a specialized nature?
- 33 AB 7. Did you ever serve an apprenticeship?
- 33 AB 8. Did you ever start to serve an apprenticeship?
- 33 AB 9. Could you hold a job as foreman in a factory or of a construction crew?
- 33 AB 10. Have you ever held down a job as foreman in a factory or of a construction crew?
- 33 AB 11. Have you ever been a straw boss?
- 33 AB 12. Have you ever had other men working under you?
- 33 AC 1. Can you hold your own in manual labor with the next man?
- 33 AC 2. Can you shovel as much coal as the average man?
- 33 AC 3. Have you any physical defects which prevent you from doing heavy work?
- 33 AC 4. Are you too weak to do heavy work?

- 33 AC 5. Have you ever done manual labor?
- 33 AC 6. Have you ever worked with a pick and shovel?
- 33 AC 7. Have you ever done labor work on a construction job?
- 33 AC 8. Have you ever done purely labor work for the city?
- 33 AC 9. Have you ever done porter work?
- 33 AC 10. Are you an unskilled laborer?
- 33 AC 11. Have you ever worked as an unskilled laborer?
- 33 BA 1. Do you think that you could get by without working?
- 33 BA 2. Have you ever gotten by for any length of time without working?
- 33 BA 3. Do you consider it beneath your dignity to accept work other than in your own chosen line?
- 33 BA 4. Are there any kinds of work which you simply would not perform?
- 33 BA 5. If you were unable to get a job in your own line, would you be willing to accept work of some other kind?
- 33 BA 6. Would you take almost any job offered you?
- 33 BA 7. Would you do manual labor under any circumstances?
- 33 BA 8. Are there some kinds of work which you consider beneath you?
- 33 BA 9. Would you accept a job as a "white wing" if it were the only thing open to you?
- 33 BA 10. Would you work with a pick and shovel if you could get no other kind of work?
- 33 BA 11. Is there a definite amount of wages for less than which you would refuse to work?
- 33 BA 12. Would you do any kind of work for any amount of money in an emergency?
- 33 BA 13. Do you think a man should be glad to get any kind of work during a depression or during slack times?
- 33 BA 14. Would you sooner go without a job than do manual labor if there was no opening in your particular field?
- 33 BB 1. Do you consider yourself too good to take just any kind of a job?
- 33 BB 2. Do you think you are capable of holding down a much bigger job than any you have held up to this time?
- 33 BB 3. Do you think that were it not for "office politics" you would have had a better job than the one you held outside?
- 33 BB 4. Have you ever found your job just a little bigger than you were?
- 33 BB 5. Do you think that your employers fail to appreciate your ability?
- 33 BB 6. Do you think you are really quite proficient in any particular line of work?
- 33 BB 7. Are there some kinds of work that you think you can do better than anyone else?
- 33 BB 8. Do you think you are worth a much bigger salary than you have ever received?
- 33 BB 9. Do you think your abilities along any lines are such that it would be a waste of talent for you to do manual labor?

## FACTOR NUMBER 34

- 34 A 1. Have you learned any trade in prison?
- 34 A 2. Have you become really proficient in any line of work in prison?



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- 34 A 3. Have you worked longer than a year at any trade in prison?
- 34 A 4. Have you stuck to one trade pretty much all your time in prison?
- 34 A 5. Are you proficient in any trade now that you didn't know when you entered prison?
- 34 B 1. Do you think that you have learned anything well enough in prison to earn a living at it on the outside?
- 34 B 2. With just a little further training do you think you could earn a living by doing the same work on the outside that you are doing here?
- 34 B 3. Do you intend to follow on the outside any trade that you have learned in here?
- 34 B 4. Do you expect to do the same kind of work on the outside that you are doing now?
- 34 C 1. Are you now an expert at any occupation you have learned in prison?
- 34 C 2. Do you feel that you are as well equipped in any line as the average outside worker?
- 34 C 3. Have you become well enough trained in prison so that you can hold down a job on the outside?
- 34 C 4. Are you better equipped in any occupation than an outside worker?
- 34 C 5. Could you be an apprentice?
- 34 C 6. Could you be a master craftsman?

## FACTOR NUMBER 35

- 35 A 1. Were you ever in any other penal institution?
- 35 A 2. Have you been in more than two penal institutions?
- 35 B 1. Have you ever been in a house of correction or workhouse anywhere?
- 35 B 2. Have you ever been in a workhouse or a house of correction more than twice?
- 35 B 3. Have you served time in both a workhouse and a house of correction?
- 35 C 1. Have you been in jail more than twice?
- 35 C 2. Have you been in jail more than five times?
- 35 C 3. Have you been in more than one jail?
- 35 C 4. Have you been in more than two jails?
- 35 C 5. Have you been in more than four jails?
- 35 D 1. Have you ever been in a juvenile institution?
- 35 D 2. Have you been in more than two juvenile institutions?
- 35 D 3. Have you been in the same juvenile institution twice or more?
- 35 D 4. Were you ever in an industrial school?
- 35 D 5. Were you ever an inmate in a parental home?
- 35 D 6. Have you a juvenile record?
- 35 E 1. Have you been arrested by the police more than once?
- 35 E 2. Have you been arrested by the police more than twice?
- 35 E 3. Have you been arrested by the police more than four times?
- 35 E 4. Have you been arrested by the police more than ten times?

- 35 E 5. Have you been arrested by the police more than fifty times?  
35 E 6. How many times have you been arrested?

## FACTOR NUMBER 36

- 36 A 1. Do you consider yourself a gangster?  
36 A 2. Does anyone consider you a gangster?  
36 A 3. Have you plenty of friends who would come to your aid if you were in trouble with the police?  
36 A 4. Have you a few friends who would come to your aid if you were in trouble with the police?  
36 A 5. Does a membership in your gang necessarily entitle you to the absolute loyalty of the other members?  
36 A 6. Do you feel obligated to be loyal to the rest of the members of your gang?  
36 A 7. If you are not a lone-wolf would you say that you are a gangster?  
36 A 8. If you are not a gangster would you say that you are a lone-wolf?  
36 B 1. Using the newspapers as a basis for comparison would you consider your gang as one of the toughest in Chicago?  
36 B 2. Does your gang have any political influence they can call on when some member is in trouble?  
36 B 3. Is your gang known to be pretty tough in the neighborhood in which your activities are concentrated?  
36 B 4. Is your gang well known?  
36 B 5. Is the gang of which you were a member well organized?  
36 B 6. Did your gang ever put up defense money for one of its members who was in jail?  
36 B 7. Was your gang in the habit of fixing cases for its members?  
36 B 8. Could the gang to which you belonged safely be trifled with?  
36 B 9. Did your gang include any men whom the newspapers called public enemies?  
36 B 10. Did your gang give you the "go-by" when you got in trouble?  
36 B 11. Do you now think that the gang of which you were a member isn't very important?  
36 C 1. Was all your stealing done with a group?  
36 C 2. Did you learn what you know of rackets from other members of your gang?  
36 C 3. Did you ever steal alone?  
36 C 4. Did the group to which you belonged have one leader who did all the planning for its members?  
36 C 5. Did your gang employ regular tipsters?  
36 C 6. Did all the members of your gang employ the same lawyer?  
36 C 7. Did your gang have certain sections of the city where they could operate safely because the fix was in?  
36 C 8. Did your gang have any affiliations with ward leaders?  
36 C 9. Would you have gone on the racket had it not been the thing your friends were doing?  
36 C 10. Did your gang ever help out any of its members who were in the hospital?

- 36 C 11. Did your gang ever send money to any of its members who were in jail?

### FACTOR NUMBER 37

- 37 AA 1. Were you a member of more than one group?  
 37 AA 2. How many evenings each did you spend with your group in the neighborhood?  
 37 AA 3. Has the group to which you belonged outside a reputation for importance in any way?  
 37 AA 4. Did the group to which you belonged ever engage in brawls with any other group?  
 37 AA 5. Did you regularly associate with the same six or seven fellows outside?  
 37 AA 6. Did the group to which you belonged have ways of doing things which you admired?  
 37 AA 7. If one of the members of the group was arrested did the others come to his defense?  
 37 AA 8. Did your group go to dances, parties, etc., together?  
 37 AA 9. Did any members of your group ever work?  
 37 AA 10. Did all the members of your group work?  
 37 AA 11. Did some of the members of your group have cars in which to ride around?  
 37 AA 12. Does your group outside contain any individuals whom you consider more dangerous to society than yourself?  
 37 AA 13. Would you say that the group to which you belonged has proved itself to be a bunch of double-crossers?  
 37 AA 14. Did the fellows with whom you associated have any influence with your getting into trouble?  
 37 AB 1. Did you ever go out breaking windows, frightening people, etc., with a group of others?  
 37 AB 2. Did the police ever interest themselves in the activities of your group?  
 37 AB 3. Did the police frequently interest themselves in the activities of your group?  
 37 AB 4. Did any member of your group ever deliberately do anything unlawful simply to annoy someone?  
 37 AC 1. Were all the members of your group engaged in criminal activities?  
 37 AC 2. Were you the only one in your group engaged in criminal activities?  
 37 AC 3. Were any of your close friends ever sent to prison before your trouble?  
 37 AC 4. How many of your close associates before your arrest are now serving time?  
 37 AC 5. Did any member of your group ever steal a car just to go for a ride with some other member?  
 37 AC 6. Did you steal with two or more other members of your group?  
 37 AC 7. Did you steal with all the members of your group?  
 37 AC 8. Did you do all your stealing with the same person or persons?

- 37 AC 9. Did you spend most of your money with other members of the mob?
- 37 AC 10. Were you in the habit of spending one evening with one group and another with another, so that you seldom, if ever, were in the company of the same people twice in a week?
- 37 BA 1. Did you grow up with the fellows in your mob?
- 37 BA 2. Have you known your partner since you were a kid?
- 37 BA 3. As a kid, were you a member of a gang?
- 37 BA 4. Were you less than fifteen years old when you pulled off your first job?
- 37 BA 5. Were you less than fifteen when you first became a member of a gang of kids?
- 37 BA 6. Were you considered a hoodlum before you were fifteen?
- 37 BB 1. Did you pull off your first job more than a year before you were arrested?
- 37 BB 2. Did you know any hoodlums a year before you were arrested?
- 37 BB 3. Did you associate with any hoodlums a year before your arrest?
- 37 BB 4. Had you been friendly with the group of which you were a member for more than a year before your arrest?
- 37 BB 5. Were your friends at the time of your arrest largely friends of long standing?
- 37 BB 6. Had you hung around with the fellows with whom you associated just before your arrest for only a few months?
- 37 BC 1. Did your hoodlum activities start just before you were arrested?
- 37 BC 2. Did you associate with any hoodlums three months before you were arrested?
- 37 BC 3. Were you known as a hoodlum three months before getting into trouble?
- 37 BC 4. Had you just met the fellows with whom you got in this trouble before your arrest?
- 37 BC 5. Were you a newcomer in the group with which you were arrested?

## FACTOR NUMBER 38

- 38 A 1. Did you ever have a concession at a carnival?
- 38 A 2. Did you ever travel with a carnival?
- 38 A 3. Were you ever a "shill" for a grift joint on a carnival?
- 38 A 4. Did you ever have anything to do with a "flat joint" on a carnival?
- 38 A 5. Do you know what a "flat joint" on a carnival is?
- 38 A 6. Have you ever been a grifter?
- 38 A 7. Did you ever help trim suckers on a carnival or circus?
- 38 A 8. Do you believe it is morally wrong to operate a "flat joint"?
- 38 A 9. Do you think most of the concessions on carnivals and in side shows are legitimate?
- 38 A 10. Do you know how a "grift joint" is operated?
- 38 A 11. Do you know what a "gilly show" is?
- 38 A 12. Did you ever have anything to do with a "wheel" on a carnival?
- 38 A 13. Did you ever have anything to do with a "roll-down" on a carnival?
- 38 A 14. Did you ever have anything to do with a "cat joint" on a carnival?

- 38 A 15. Did you ever have anything to do with a "grab joint" on a carnival?
- 38 A 16. Did you ever run a "juice joint" on a carnival?
- 38 B 1. Did you ever operate any kind of skin game?
- 38 B 2. Do you know anyone who operates a skin game?
- 38 B 3. Did you ever sell allegedly gold watches as real?
- 38 B 4. Did you ever sell imitation jewels as real?
- 38 B 5. Did you ever sell subscriptions for farm journals to fleece the customers of the postage?
- 38 B 6. Did you ever operate a three-card monte outfit?
- 38 B 7. Did you ever run a shell game?
- 38 B 8. Did you ever cheat at cards?
- 38 B 9. Did you ever use crooked dice?
- 38 B 10. Did you ever operate a drop-case?
- 38 B 11. Did you ever practice any kind of petty confidence game?
- 38 B 12. Did you ever help operate an auction sale where cheap imitation jewelry was pawned off as real?
- 38 B 13. Did you ever spring the "dropping the poke" gag?
- 38 B 14. Did you ever play a chump against the "pay-off"?
- 38 B 15. Did you ever play a mark against the "wire"?
- 38 B 16. Did you ever belong to a shake mob?
- 38 B 17. Have you ever been on the "short con"?
- 38 B 18. Do you know what "laying paper" is?
- 38 B 19. Have you ever been a "steerer" for a con mob?
- 38 B 20. Did you ever play the "hype"?
- 38 B 21. Did you ever "lay the note"?
- 38 B 22. Have you ever passed bogus checks?
- 38 B 23. Have you ever played a sucker against the "match" or the "smack"?
- 38 B 24. Have you ever played a mark against the "lemon" or the "duke"?
- 38 B 25. Have you ever "played the muzzlers"?
- 38 C 1. Did you ever indulge in minor thievery of any description?
- 38 C 2. Did you, as a child, ever steal fruit from a fruit stand?
- 38 C 3. Have you ever "boosted" articles in stores?
- 38 C 4. Have you ever been a shop-lifter?
- 38 C 5. Have you ever stolen packages from trucks or railway stations?
- 38 C 6. Have you ever stolen baggage?
- 38 C 7. Have you ever prowled a hotel?
- 38 C 8. Have you ever committed petit larceny?
- 38 C 9. Have you ever stolen articles from a jewelry store?
- 38 C 10. Do you know what "pennyweighting" is?
- 38 C 11. Have you ever stolen goods from a warehouse?
- 38 C 12. Have you ever picked anyone's pocket?
- 38 C 13. Did you ever belong to a cannon mob?
- 38 C 14. Did you ever act as a fence?
- 38 C 15. Have you ever bought stolen goods?
- 38 C 16. Have you ever sold stolen goods?
- 38 D 1. Did you ever roll a drunk?
- 38 D 2. Have you ever given anyone a "K.O. powder" and then robbed him?
- 38 D 3. Have you ever put the arm on a mark and robbed him?

- 38 D 4. Have you ever been a "jack roller"?  
38 D 5. Have you ever slugged a man and then robbed him?  
38 D 6. Have you ever been with a group who put the sleeve on a man and took his money?

## FACTOR NUMBER 39

Jacket information

## FACTOR NUMBER 40

Jacket information

## FACTOR NUMBER 41

- 41 A 1. Do you think this prison is a very unpleasant place?  
41 A 2. Is prison less unpleasant than you thought it would be?  
41 A 3. Is prison more unpleasant than you thought it would be?  
41 A 4. Could conditions in prison be bettered a great deal?  
41 A 5. Could conditions in prison be much worse than they are?  
41 A 6. Have you actually suffered hardship in prison?  
41 A 7. Have you ever been really hungry in prison?  
41 A 8. Do you think that the food in prison is very bad?  
41 A 9. Is prison discipline as strict as you thought it would be?  
41 A 10. Is prison discipline stricter than you thought it would be?  
41 A 11. Have you been mistreated in prison?  
41 A 12. Have you had to work very hard in prison?  
41 A 13. Do you enjoy your work in prison?  
41 A 14. Have you a good job in prison?  
41 B 1. Did you eat as well outside as you do here?  
41 B 2. Did you eat much better outside than you do here?  
41 B 3. Were your living conditions outside much better than they are here?  
41 B 4. If it were not for the fact that you are confined, would you be satisfied with the standard of living which you have here?  
41 B 5. Do you miss the comforts that you had outside very much?  
41 B 6. Do you have access to better books in here than you did outside?  
41 B 7. Did you have as good medical attention outside as you have in prison?  
41 B 8. Did you have as good shoes outside as you have here?  
41 B 9. Did you have a radio outside?  
41 B 10. Did you spend as much time in recreation outside as you do here?  
41 B 11. Is the fact that you are confined the only thing that bothers you?  
41 B 12. Were your living conditions outside much better than they are here?  
41 B 13. Were your living conditions outside as good as they are here?  
41 C 1. Have you a politician's job in prison?  
41 C 2. Have you always had a politician's job in prison?  
41 C 3. Have you had a politician's job most of your time here?  
41 C 4. Have you been more fortunately placed in prison than the average?  
41 C 5. Do you know how to go about getting a politician's job in prison?

- 41 C 6. Does the fact that you have a good job here make your time any easier to do?
- 41 C 7. Do you consider a good job in prison one where you can score for good food?
- 41 C 8. Do you consider a good job in prison one where you work in an office and are able to keep yourself clean?
- 41 C 9. Do you consider a good job in prison one where you have nothing to do?
- 41 C 10. Do you consider a good job in prison one where you have the privilege of running all around the yard?
- 41 C 11. Do you consider a good job in prison one where you are able to make plenty of connections?
- 41 C 12. Would you do easier time if you had some other job in prison?
- 41 C 13. Do you have the job in prison that you prefer over all other jobs you are qualified to hold?
- 41 C 14. Does your present job in here give you the leisure time necessary for studying anything that you may wish to study?
- 41 C 15. Is your work in prison very similar to that which you did on the outside?
- 41 C 16. Would you like to follow the work you are doing in prison when you are released on parole?
- 41 C 17. Do you think you will follow the line of work you are doing in prison when you are released on parole?
- 41 C 18. Has your work in prison been interesting enough to inspire you to learn it thoroughly and then go into it as a life's work?
- 41 C 19. Have you learned a trade in prison well enough to work at it on the outside?

FACTOR NUMBER 42

Jacket information

## APPENDIX D

Table D 1

## VITAL STATISTICS OF TRUTH GROUP

No.	Age	Nation- ality	Crime	Sentence	Time Served	Previous Record	Marital State	Alpha Score
1	62	American	Murder	Life (5 mitt)	27y 2m	6 fel	sin	A 158
2	42	American	Robbery, etc.	1-Life	16y 8m	1f 2m	sin	A 202
3	34	American	Murder	Life	12y 9m	none	sin	C+ 76
4	53	American	Murder	Life	10y 4m	none	mar	C 59
5	26	Polish	Burglary	1-20 (4 mitt)	8y 3m	1m 1p	sin	C 39
6	31	American	Robbery	3-20 (3 mitt)	7y 9m	1 felony	mar	C 60
7	33	Italian	Manslaughter	1-Life	7y 1m	none	mar	Illit
8	37	American	Murder	Life & 99 yrs.	6y	1f 2m	div	A 142
9	27	Austrian	Robbery, etc.	1-Life	6y	1 juv	mar	A 136
10	33	Canadian	Con Game	1-10	5y 8m	none	mar	A 141
11	30	German	Robbery	1-20	5y 3m	3 mis	sin	C 50
12	25	Italian	Robbery	1-20	5y 3m	2f 3m 3j	sin	C 71
13	31	American	Robbery	1-20	5y 2m	1f 2m	sin	C+ 75
14	32	American	Robbery, etc.	1-Life	5y 1m	1 felony	mar	B 113
15	25	Italian	Robbery, etc.	1-Life	5y	1 felony	mar	C+ 86
16	32	Slav	Assault, Rape	1-14	4y 9m	none	sin	C+ 78
17	22	Italian	Robbery, etc.	1-Life	4y 9m	1 juv	mar	C+ 84
18	33	Polish	Robbery, etc.	1-Life	4y 8m	none	mar	C 65
19	23	American	Robbery, etc.	1-Life	4y 6m	1 prob	sin	B 123
20	23	German	Robbery, etc.	1-Life	4y 4m	none	sin	C 45
21	27	American	Robbery	1-20	4y 5m	1 fel	sep	B 133
22	35	Polish	Larceny	1-10	4y 3m	1 prob	sin	C 62
23	21	Russian	Robbery, etc.	1-Life	4y 2m	none	sin	no rec.
24	21	American	Robbery, etc.	1-Life	4y 3m	1m 1j	sin	C 66
25	26	French	Robbery, etc.	1-Life(3mitt)	4y 2m	1f	sin	C 62
26	28	German	Robbery, etc.	1-Life	3y 8m	none	mar	C+ 83
27	37	American	Robbery, etc.	1-Life	3y 6m	1 prob	mar	B 126
28	26	Italian	Robbery, etc.	1-Life	3y 3m	none	mar	C+ 86
29	26	American	Robbery	1-20 (8 mitt)	3y 3m	none	mar	C+ 81
30	30	American	Robbery	1-20 (8 mitt)	3y 3m	none	sin	A 148
31	31	American	Robbery, etc.	1-Life	3y 3m	none	sin	C 51
32	23	Polish	Murder	20 years	2y 10m	none	sin	C+ 76
33	22	American	Assault Murd.	1-14	2y 10m	none	mar	C 62
34	30	American	Larceny	1-10	2y 9m	2p 1m	mar	C- 32
35	26	Polish	Robbery, etc.	1-Life	2y 8m	1f 1m	mar	D 20
36	33	American	Assault to Rob	1-14	2y 8m	none	sin	C 69
37	36	American	Larceny Auto	1-20	2y 8m	2 felony	mar	C 74
38	45	Dutch	Con Game	1-10	2y 7m	1 felony	mar	A 140
39	38	Polish	Larceny	1-10	2y 5m	1 felony	sin	A 144
40	36	American	Assault Murd.	1-14	2y 3m	1f 1m	mar	C+ 96
41	24	American	Robbery, etc.	1-Life (4mitt)	2y 3m	none	sin	B 127
42	25	American	Robbery, etc.	1-Life (2mitt)	2y 2m	none	sin	C+ 91
43	50	American	Kidnaping	5 years	2y	none	mar	B 111
44	36	English	Robbery, etc.	1-Life (3mitt)	1y 10m	none	div	C 58
45	27	American	Robbery, etc.	1-Life	1y 9m	none	sin	B 129
46	33	American	Murder	90 years	1y 9m	2f 1m	sin	A 141
47	36	Slav	Con Game	1-10	11m	none	sin	no rec.
48	37	Russian	Larceny	1-10	11m	none	mar	A 137
49	29	Irish	Robbery, etc.	1-Life (2mitt)	11m	none	sin	A 151
50	25	Austrian	Robbery	1-20 (4 mitt)	10m	none	sin	no rec.
51	24	Italian	Robbery	1-20	10m	1 prob	mar	C 63
52	26	American	Burglary	1-20	7m	1 juv	mar	B 127
53	24	American	Larceny	1-10	9m	1 felony	sin	A 173
54	38	American	Con Game	1-10	8m	none	mar	A 135
55	24	American	Robbery, etc.	1-Life (3mitt)	5m	none	sin	B 131
56	22	American	Robbery, etc.	1-Life (2mitt)	5m	none	sin	A 171
57	27	German	Robbery, etc.	1-Life	5y	none	sin	B 115

Avs: Age 30.84y; Time 51.68m; Prv R .44 fel .12 prob .32msd .12 jv; Alpha C+ 98.86



## Predicting Criminality

Figure D 2

CARD SHOWING FACTOR NUMBER, QUESTIONNAIRE NUMBER, QUESTION  
AND REPLIES OF VARIOUS GROUPS TO THE QUESTION

14 C 29

6. Have you ever helped get signatures to a petition?

TRUTH GROUP

Yes 25 No 32 Blank 0

RANDOM GROUP "A"

Yes 6 No 49 Blank 2

$$d = .33$$

$$e = .09$$

$$d/e = 3.67 \text{ (significant)}$$

N. W. STUDENTS

Yes 23 No 12 Blank 0

VOLUNTEER GROUP

Yes 14 No 43 Blank 0

## APPENDIX E

Table E 1

TETRACHORIC COEFFICIENTS OF CORRELATION BETWEEN THE QUESTIONS OF FACTOR NUMBER 1

	1A1	1A2	1A3	1A4	1A5	1A6	1A7	1A8	1A9	1A10	1A11	1A12	1A13	1A14	1A15	1A16	1A17	1A18	1A19	1A20	1A21	1A22	1A23
1A1	1.00	.58	.49	-.48	.48	.28	.03	....	....	.02	....	.16	-.01	.00	-.17	.00	-.28	....	.42	.43	.09	.12	.14
1A2	.58	1.00	.93	-.35	.20	.28	.32	....	.67	.12	....	-.10	.15	.49	.01	-.10	.30	....	.11	.31	.27	.25	.21
1A3	.49	.93	1.00	-.44	.36	.49	.17	....	-.12	.02	....	.24	.12	.50	-.22	.02	.20	....	.07	.12	.39	.27	.11
1A4	-.48	-.35	-.44	1.00	-.05	.22	.20	....	....	....	....	.20	.54	.31	.48	....	.05	....	.10	.10	.00	-.15	-.18
1A5	.48	.20	.36	-.05	1.00	.73	.72	....	....	....	....	.88	.57	.91	.52	....	.41	....	.54	.35	.02	.49	-.31
1A6	.28	.28	.49	.22	.73	1.00	.65	....	-.38	-.30	....	.63	.80	.82	.43	.30	.00	....	.50	.38	.57	.03	-.34
1A7	.03	.32	.17	.20	.72	.65	1.00	....	-.68	....	....	.96	.50	.95	.82	.90	-.37	....	.69	.30	.42	....	-.59
1A8	....	....	....	....	....	....	1.00	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1A9	....	.67	-.12	....	....	-.38	.68	....	1.00	.56	....	-.43	-.28	-.58	-.59	.57	.43	.70	.78	.60	....	....	.62
1A10	.02	.12	.02	....	....	-.30	....	....	.56	1.00	....	....	....	....	....	.94	.59	....	.71	.12	....	....	.55
1A11	....	....	....	....	....	....	....	....	....	....	1.00	....	....	....	....	....	....	....	....	....	....	....	....
1A12	.16	-.10	.24	.20	.88	.63	.96	....	-.43	....	....	1.00	.70	.85	.75	....	-.54	....	.55	.39	.42	.44	-.58
1A13	-.01	.15	.12	.54	.57	.80	.50	....	-.28	....	....	.70	1.00	.75	.58	.22	.05	....	.33	.80	.70	.20	-.17
1A14	.00	.49	.50	.31	.91	.82	.95	....	-.58	....	....	.85	.75	1.00	.92	.59	.17	....	.78	.48	....	.20	-.48
1A15	-.17	.01	-.22	.48	.52	.43	.82	....	-.59	....	....	.75	.58	.92	1.00	.59	.51	....	.72	.48	.58	.19	-.61
1A16	.00	-.10	.02	....	....	-.30	.90	....	.57	.94	....	....	.22	.59	.59	1.00	....	....	.32	.12	.00	....	.17
1A17	-.28	.30	.20	.05	-.41	.00	-.37	....	.43	.59	....	-.54	.05	.17	.51	....	1.00	....	.48	.05	.12	-.22	.55
1A18	....	....	....	....	....	....	....	....	.70	....	....	....	....	....	....	....	....	1.00	.55	....	....	....	....
1A19	.42	.11	.07	-.10	-.54	.50	.69	....	.78	.71	....	-.55	-.33	.78	.72	.32	.48	.55	1.00	.03	....	-.04	.47
1A20	.43	.31	.12	.10	.35	.38	.30	....	-.60	-.12	....	.39	.80	.48	.48	.12	.05	....	.03	1.00	....	.27	-.31
1A21	.09	.27	.39	.00	-.02	.57	.42	....	....	....	....	.42	.70	....	.58	.00	.12	....	....	....	1.00	.30	-.39
1A22	.12	.25	.27	-.15	.49	.03	....	....	....	....	....	.44	.20	.20	.19	....	-.22	....	-.04	.27	.30	1.00	-.24
1A23	.14	.21	.11	-.18	-.31	-.34	-.59	....	.62	.55	....	-.58	-.17	-.48	-.61	.17	.55	....	.47	-.31	-.39	-.24	1.00



## FACTORS

[illegible]

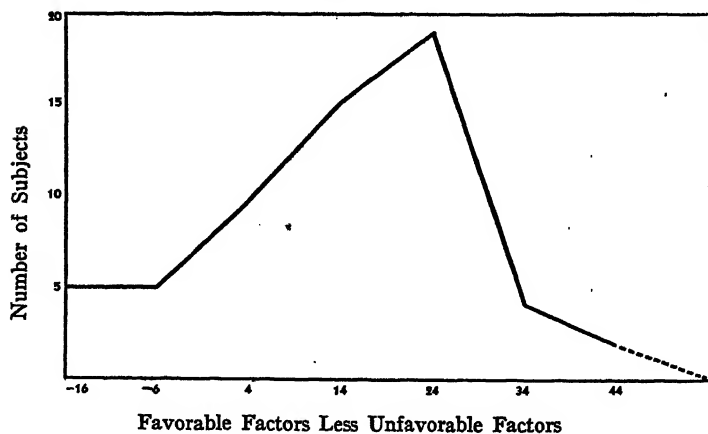
Table E 3

FACTOR SCORES OF 57 MEMBERS OF TRUTH GROUP BASED ON COLLECTIVE "HUNCH" JUDGMENTS OF W, X, AND Y. SCORES ARE EXPRESSED IN TERMS OF FAVORABLE FACTORS MINUS UNFAVORABLE FACTORS.

Score	Number of Subjects	Score	Number of Subjects
40	1	10	1
34	1	8	3
32	1	6	2
30	2	4	1
28	2	2	3
26	2	0	1
24	8	-2	2
22	5	-4	1
20	2	-10	2
18	5	-12	1
16	3	-18	2
14	1	-20	1
12	4		
Mean = 13.61		Median = 17	
		$\sigma = 14.14$	

Figure E 4

COMPOSITE "HUNCHES" OF W, X, AND Y ON 57 SUBJECTS OF TRUTH GROUP BASED ON 54 FACTORS. SCORES ARE BASED ON NUMBER OF FAVORABLE FACTORS LESS NUMBER OF UNFAVORABLE FACTORS



## APPENDIX F

Table F 1

SCORES OF 57 MEMBERS OF TRUTH GROUP ON THE QUESTIONS OF THE  
SHORT QUESTIONNAIRE

Subject	Favorable Factors	Subject	Favorable Factors
1	28	30	37
2	24	31	36
3	31	32	33
4	42	33	39
5	25	34	30
6	26	35	37
7	43	36	36
8	23	37	25
9	26	38	40
10	41	39	32
11	33	40	24
12	30	41	31
13	30	42	37
14	31	43	44
15	41	44	39
16	40	45	35
17	32	46	34
18	31	47	36
19	29	48	41
20	33	49	31
21	32	50	31
22	22	51	31
23	27	52	28
24	32	53	27
25	36	54	35
26	33	55	34
27	33	56	36
28	43	57	24
29	36		

APPENDIX G  
SHORT QUESTIONNAIRE

Reg. No. \_\_\_\_\_ Name \_\_\_\_\_

## INSTRUCTIONS

Answer the following questions by drawing a circle around the correct answer to each. For example,

Are you in prison now? ..... ☒ Yes ☐ No

Are all prisoners honest? ..... Yes ☒ No

Be sure to answer every question whether it applies to you or not. If you are not married and are asked "Do you love your wife?", you will have to answer "No," because if you have no wife, you cannot love her. To some questions it will be hard to answer either "Yes" or "No," but mark the answer you think is more nearly true. **BE SURE TO ANSWER EVERY QUESTION.** Also be sure to fill in your number and name in the spaces at the top of this page.

★ ★ ★

1. Have you worked longer than a year at any trade in prison? . . . Yes No
2. Did you ever spend as much as \$25 for an evening's entertainment in a cabaret? . . . Yes No
3. Do you intend to have the same friends after your release as before your arrest? . . . Yes No
4. Do your brothers or sisters visit you or write to you? . . . Yes No
5. When you are in company with others, do you make the decision as to how the evening will be spent more frequently than they do? . . . Yes No
6. Do you make inquiries about a man's reputation before becoming friendly with him? . . . Yes No
7. Could you hold a clerical position? . . . Yes No
8. Do you generally plan far into the future? . . . Yes No
9. Are your parents the finest people in the world? . . . Yes No
10. Are you considered strong-minded by others? . . . Yes No
11. Are you going back to your wife when you are released? . . . Yes No
12. Do you like to go out stepping every night? . . . Yes No
13. Do you think it is a waste of time to spend years learning some profession when you might be out working? . . . Yes No
14. Are you a better man now than when you were received in prison? . . . Yes No
15. Do you generally get quite enthusiastic over hearing some bit of good news? . . . Yes No
16. Do you know what methods most lawyers use to beat "raps"? . . . Yes No
17. Did you go out with girls as often as five times a week? . . . Yes No
18. Were you ever in any other penal institution? . . . Yes No
19. Has your wife been loyal to you in your trouble? . . . Yes No
20. Would you like to take it easy for the rest of your life? . . . Yes No
21. Has prison taught you to fear punishment? . . . Yes No
22. Do you spend much time working out complicated plans in advance? . . . Yes No
23. Did you buy only what clothes were absolutely necessary? . . . Yes No
24. Do most people like you? . . . Yes No
25. Have you ever promoted a quarrel between two people? . . . Yes No
26. Have you been in more than ten states of the Union? . . . Yes No
27. Were you the only one in your group engaged in criminal activities? . . . Yes No
28. Do you consider yourself very bright? . . . Yes No
29. Are you very particular about the people with whom you associate? . . . Yes No

30. If you were working with a group who were slacking, would you slack? .....Yes No
31. Do you feel at home in the city?.....Yes No
32. Are you something of a leader in prison?.....Yes No
33. Would you be better satisfied working for only half a day than for a whole day?.....Yes No
34. Have you many friends?.....Yes No
35. Have you a good job in prison?.....Yes No
36. Have your brothers and sisters done more for you than you have done for them?.....Yes No
37. If your cell-partner brought an electric stove into your cell, would you be very frightened that you might be punished?....Yes No
38. Would you be happy just taking it easy?.....Yes No
39. Has prison experience had a good moral effect upon you?.....Yes No
40. Do you pray regularly?.....Yes No
41. Have you ever done work of a specialized nature?.....Yes No
42. Have your parents stuck with you thru thick and thin?.....Yes No
43. Are you highly impressionable?.....Yes No
44. Have you ever dreamed about the future and worked with the idea of realizing that dream?.....Yes No
45. Are you now an expert at any occupation you have learned in prison? .....Yes No
46. Are your parents separated?.....Yes No
47. Do you ever lie down and have a good cry?.....Yes No
48. If a close pal of yours were in some jail charged with some crime and he had plenty of money, would you know how to go about putting in a fix for him?.....Yes No
49. Were you considered a ladies' man?.....Yes No
50. Have you been in more than one jail?.....Yes No
51. If a man made a statement in your hearing about a matter of fact and you knew he was wrong, would you call him on it?..Yes No
52. Is it proper to put crooked dice in a game if the fellows playing are fools enough to permit it?.....Yes No
53. If you were earning \$25, would you spend more than \$6 a week on clothes? .....Yes No
54. Have you any moral scruples against stealing?.....Yes No
55. Have any of your brothers or sisters ever broken the law?....Yes No
56. Did you ever tell a man someone else was making a sucker out of him? .....Yes No
57. Did you ever get a job on the strength of your personality?..Yes No
58. Have you ever broken a prison rule?.....Yes No
59. Have you ever hopped freights around the country?.....Yes No
60. Were you considered a hoodlum before you were fifteen?....Yes No
61. Did you have to go out and earn your own living as soon as you could get a job?.....Yes No
62. Would you sacrifice others to your own advancement?.....Yes No
63. Is it easy to become friendly with you?.....Yes No
64. Do you have any hobbies?.....Yes No



## Predicting Criminality

- |   |     |    |
|---|-----|----|
| 65. Did you ever indulge in minor thievery of any description? . . .  | Yes | No |
| 66. Have you ever pitched hay? . . . . .  | Yes | No |
| 67. Do girls run after you? . . . . .   | Yes | No |
| 68. Did you have your own special chair in which you always sat<br>on the outside? . . . . .  | Yes | No |
| 69. Were there frequent intervals between your jobs? . . . . .  | Yes | No |
| 70. Have you been more fortunately placed in prison than the<br>average? . . . . .  | Yes | No |
| 71. Have your brothers and sisters been loyal to you? . . . . .   | Yes | No |
| 72. If you had a chance to escape, would the fear of the punishment<br>if you were caught stop you? . . . . .   | Yes | No |
| 73. Are you worse off morally now than when you came to prison? .   | Yes | No |
| 74. Do you consider it beneath your dignity to accept work other<br>than in your own chosen line? . . . . .   | Yes | No |
| 75. Are you easily picked on? . . . . .   | Yes | No |
| 76. Do you spend much time studying things now for which you<br>have no immediate use but which you think may come in handy<br>in the future? . . . . . | Yes | No |
| 77. Are you known as a good tipper? . . . . .   | Yes | No |
| 78. Does it generally take really important things to upset you? .  | Yes | No |
| 79. Did you ever know of a case, yourself, where a member of the<br>jury was bought? . . . . .  | Yes | No |
| 80. Did you ever live in a house of ill-fame? . . . . .   | Yes | No |
| 81. Did your wife try to "keep you straight"? . . . . .   | Yes | No |
| 82. Do you think a man is justified in winning the confidence of<br>others in order to "clip" them? . . . . .   | Yes | No |
| 83. Did your gang have certain sections of the city where they<br>could operate safely because the "fix" was in? . . . . .                              | Yes | No |
| 84. Have you ever gone over to the deputy to try and get someone<br>else out of the hole? . . . . .   | Yes | No |
| 85. Did your hoodlum activities start just before you were<br>arrested? . . . . .   | Yes | No |
| 86. Do you make friends only with cultured people? . . . . .  | Yes | No |
| 87. Would you go crazy if you had nothing to do? . . . . .  | Yes | No |
| 88. Have you the reputation of being conceited? . . . . .   | Yes | No |
| 89. Were you ever fired from a job? . . . . .   | Yes | No |
| 90. Have most of your jobs been in the same line of work? . . . .   | Yes | No |
| 91. Do your brothers and sisters send you money? . . . . .  | Yes | No |
| 92. Have you ever committed a crime? . . . . .  | Yes | No |
| 93. Are you afraid of the "hole"? . . . . .   | Yes | No |
| 94. Are you religious? . . . . .  | Yes | No |
| 95. Have you the ability to hold any job other than purely unskilled<br>labor? . . . . .  | Yes | No |
| 96. Has prison done you good mentally? . . . . .  | Yes | No |
| 97. Is your mother much sweeter than other mothers? . . . . .   | Yes | No |
| 98. Do you try to model your conduct on some plan you have<br>thought out in advance? . . . . .   | Yes | No |

- |   |     |    |
|---|-----|----|
| 99. Do you often give your favorite entertainer \$5 to sing some particular song? .....             | Yes | No |
| 100. Have you stuck to one trade pretty much all your time in prison? .....                         | Yes | No |
| 101. Do you ever plan business operations that extend more than a few months into the future? ..... | Yes | No |
| 102. Do you ever get "down in the dumps"? .....   | Yes | No |
| 103. Do you think the intimidation of witnesses is a good way to beat a rap? .....                  | Yes | No |
| 104. Do you consider your imprisonment as merely a temporary interruption in your life plans? ..... | Yes | No |
| 105. Were many of your activities indulged in for the purpose of making a hit with girls? .....     | Yes | No |
| 106. Have you been in more than two penal institutions? .....                                       | Yes | No |
| 107. Has your wife done everything she could to help you? .....                                     | Yes | No |
| 108. Do you spend much time arguing? .....  | Yes | No |
| 109. Are you a pretty good schemer? .....   | Yes | No |
| 110. Do you spend more on clothes than you do on any one other item? .....                          | Yes | No |
| 111. Are you sometimes all pepped up? .....   | Yes | No |
| 112. Have your parents ever broken the law? .....   | Yes | No |
| 113. Did you ever point out to a fellow that he was being taken advantage of? .....                 | Yes | No |
| 114. Has your ability to persuade people ever helped you when you were in trouble? .....            | Yes | No |
| 115. Would you be uncomfortable if you had to remain in one town very long? .....                   | Yes | No |
| 116. Were you less than fifteen years old when you pulled off your first job? .....                 | Yes | No |
| 117. Do you look out for your own welfare most of the time? .....                                   | Yes | No |
| 118. Did your family own an automobile? .....   | Yes | No |
| 119. Do you "rap" to nearly everybody? .....  | Yes | No |
| 120. Would you have made a bigger success of life if you had been willing to work harder? .....     | Yes | No |
| 121. Do you know what "laying paper" is? .....  | Yes | No |
| 122. Have you ever shucked corn? .....  | Yes | No |
| 123. Are you entirely without influence with other prisoners? .....                                 | Yes | No |
| 124. Would you be much distressed if you had to eat eggs without salt? .....                        | Yes | No |
| 125. Did you work regularly? .....  | Yes | No |
| 126. Did you have as good shoes outside as you have here? .....                                     | Yes | No |
| 127. Have your brothers and sisters done all they should for you? ..                                | Yes | No |
| 128. Are you considered reckless by others? .....   | Yes | No |
| 129. Do you feel that imprisonment has debased you morally? ....                                    | Yes | No |
| 130. Do you believe that it is hypocritical to be religious in prison? ..                           | Yes | No |
| 131. Are you too weak to do heavy work? .....   | Yes | No |
| 132. Did your parents neglect your training when you were young? ..                                 | Yes | No |
| 133. Are you always planning things for the future? .....   | Yes | No |

- |  |     |    |
|--|-----|----|
| 134. Do you often get drunk?.....  | Yes | No |
| 135. Do you feel that you are as well equipped in any line as the average outside worker?.....   | Yes | No |
| 136. Do you think that the fact that your family is broken had anything to do with your being here?.....   | Yes | No |
| 137. Is it hard to make you feel really blue?.....   | Yes | No |
| 138. Do you think you could beat nearly any "rap" if you had enough money? .....   | Yes | No |
| 139. Have you ever had a venereal disease?.....  | Yes | No |
| 140. Have you been in more than four jails?.....   | Yes | No |
| 141. Do you like to stay home with your wife?.....   | Yes | No |
| 142. Do you frequently consult the almanac or the dictionary to prove an argument?.....  | Yes | No |
| 143. Did you ever "outcon" a con man?.....   | Yes | No |
| 144. Are you really interested in clothes themselves?.....   | Yes | No |
| 145. If something that you could steal was very necessary to your complete happiness and there was an excellent chance that you would not get caught, would you steal it?..... | Yes | No |
| 146. Are you the only member of your family ever to be arrested?..   | Yes | No |
| 147. Have you ever helped get signatures to a petition?.....   | Yes | No |
| 148. Do you think you have a pleasant personality?.....  | Yes | No |
| 149. Does it get on your nerves to remain long in one town?.....   | Yes | No |
| 150. Did you associate with any hoodlums a year before your arrest?..  | Yes | No |
| 151. Have any of your friends on the outside police records?.....  | Yes | No |
| 152. Are you often influenced by what others may think of your actions? .....  | Yes | No |
| 153. Are you afraid of snakes?.....  | Yes | No |
| 154. Do you have to know all about a man before you will accept him as a friend?.....  | Yes | No |
| 155. Do you think work is a blessing?.....   | Yes | No |
| 156. Have you ever committed petit larceny?.....   | Yes | No |
| 157. Are you a hoosier?.....   | Yes | No |
| 158. Do you know anyone who you think has a better personality than you? .....   | Yes | No |
| 159. Would you be terribly upset if the hot-water were turned off in your home for a day?.....   | Yes | No |
| 160. Have you often been without work?.....  | Yes | No |
| 161. Would you do easier time if you had some other job in prison?..   | Yes | No |

Sign your number and name again in the spaces immediately below:

Reg. No. \_\_\_\_\_ Name \_\_\_\_\_

Table G 1

TOTAL "HUNCH" SCORES FOR 57 MEMBERS OF THE VOLUNTEER GROUP ON  
THE BASIS OF 54 FACTORS. SCORES LISTED IN TERMS OF NUMBER OF  
FAVORABLE FACTORS

Subject	Favorable Factors	Subject	Favorable Factors
1	28	30	37
2	23	31	35
3	26	32	39
4	32	33	28
5	36	34	27
6	38	35	34
7	39	36	34
8	31	37	25
9	44	38	31
10	37	39	39
11	26	40	27
12	30	41	26
13	34	42	27
14	29	43	32
15	34	44	27
16	34	45	38
17	42	46	28
18	36	47	30
19	25	48	25
20	34	49	36
21	28	50	28
22	24	51	28
23	31	52	28
24	23	53	31
25	40	54	33
26	37	55	37
27	31	56	22
28	30	57	24
29	32		

Range: 22-44

Mean=31.40

Median=31

 $\sigma=5.27$

Table G 2

## VITAL STATISTICS OF VOLUNTEER GROUP

No.	Age	Nation- ality	Crime	Sentence	Time Served	Previous Record	Marital State	Alpha Score
1	30	American	Robbery, etc.	1-Life	6y 1m	4 mis	sin	B 114
2	23	American	Robbery, etc.	1-Life	1y	none	mar	B 116
3	34	Irish	Robbery	1-20 (3 mitt)	5y 3m	2f 1m 1j	sin	B 112
4	32	American	Robbery, etc.	1-Life	9m	1m	mar	A 171
5	47	Colored	Murder	Life	7y 7m	none	div	E 5
6	34	American	Con Game	1-10	9m	none	mar	C+ 87
7	36	American	Con Game	1-10	1y	none	div	A 158
8	28	Irish	Murder	25 years	7y 3m	none	sin	B 134
9	58	Irish	Larceny	1-10	1y	none	sin	B 128
10	46	German	False State.	1-10	1y	none	mar	B 108
11	24	American	Larceny	1-10	2y 11m	4 juv	sin	B 117
12	27	Irish	Robbery, etc.	1-Life	1y	2 prob	mar	A 147
13	43	American	Larceny	1-10	6m	none	sin	B 111
14	25	American	Robbery, etc.	1-Life	4y 3m	1f 1p	sin	B 108
15	30	American	Con Game	1-10	4y	1f 1p	div	B 114
16	24	American	Larceny	1-10	3y 5m	none	sin	B 134
17	33	American	Robbery, etc.	1-Life	3y 6m	none	mar	A 174
18	41	American	Robbery, etc.	10-Life	9y 1m	1f 2m	sin	A 170
19	37	American	Con Game	1-10	2y	2f 1m	mar	A 140
20	35	American	Murder	Life	12y 8m	none	mar	B 109
21	30	Irish	Robbery, etc.	10-Life	9y 9m	none	sin	C- 36
22	28	Italian	Assault Murd.	1-14	5y 7m	1j 8m	sin	C 46
23	26	Roumanian	Robbery	1-20	4y 4m	1 fel	sin	C 68
24	30	Italian	Robbery, etc.	1-Life	6y 2m	1 fel	sin	C+ 89
25	30	American	Murder	Life	3y 4m	none	sin	C+ 90
26	35	American	Murder	Life	12y 8m	1 fel	sin	C 69
27	33	American	Robbery, etc.	10-Life	11y 2m	none	mar	A 135
28	27	American	Forgery	1-14	4y	1j 1p	mar	A 144
29	31	Irish	Robbery, etc.	1-Life	5y 6m	1 fel	sin	B 128
30	42	Roumanian	Embezzlement	1-10	5y 4m	none	mar	C 72
31	40	Irish	Murder	15 years	2y 6m	none	mar	C- 28
32	34	American	Murder	Life	14y	none	sin	C 59
33	26	Lithuanian	Murder	20 years	7y 3m	none	sin	C- 31
34	29	German	Robbery, etc.	1-Life	6y	none	sin	C 53
35	24	American	Robbery	1-20	4y	none	mar	C+ 88
36	44	American	Robbery, etc.	1-Life (2 mitt)	6y	4 fel	sin	C+ 102
37	27	American	Larceny	1-10	3y	2 fel	mar	B 108
38	35	Colored	Robbery	1-20	5y 7m	none	mar	C- 40
39	54	Colored	Manslaughter	1-14	5y 4m	none	div	E 7
40	30	Italian	Robbery	1-20	3y 10m	1 fel	div	C 58
41	52	Polish	Larceny Auto	1-20	4y 1m	3f 1m	sin	D 17
42	35	American	Robbery	3-20	9y 1m	2 fel	sin	C+ 99
43	27	Polish	Murder	25 years	6y 9m	2 mis	sin	C 50
44	30	American	Robbery	3-20	7y 11m	none	sin	C 66
45	25	American	Robbery	1-20	10m	1 mis	sin	B 118
46	59	German	Larceny	1-10	3y	2f 1m	mar	B 121
47	28	Roumanian	Robbery, etc.	1-Life	4y 9m	1 prob	sin	C+ 87
48	36	German	Murder	Life	18y 4m	1 juv	sin	C- 42
49	39	American	Murder	Life	9y 6m	none	sin	C- 38
50	34	Colored	Murder	40 years	8y 5m	1m 1p	sin	C- 37
51	35	Irish	Robbery, etc.	10-Life	9y 11m	3 fel	sin	A 139
52	23	American	Robbery	1-20	4y 11m	none	sin	C+ 85
53	23	Polish	Robbery, etc.	1-Life	3y 7m	none	sin	C 65
54	28	American	Robbery	1-20 (2 mitt)	4y 3m	none	mar	B 118
55	30	German	Robbery, etc.	10-Life	10y 3m	none	sin	C 63
56	49	Swedish	Robbery, etc.	1-Life	6y 6m	2f 2m	mar	C 53
57	23	Italian	Robbery	1-20	5y 2m	1 fel	sin	C 53

Avs: Age 33.64y; Time 65.73m; Prv R .54 fel .12 prob .44 msd .14 juv; Alpha C+ 90.50

## FACE SHEET FOR SHORT QUESTIONNAIRE

Series	Reg. No.	Name
1. Intelligence	133 to 212	( ) _____ OFFENSE
2. A. Stupidity	72 to 212	( ) _____ SENTENCE
3. Timidity	<input type="checkbox"/> <input type="checkbox"/> 2	( ) _____ TIME SERVED
4. A. Foolhardiness	<input type="checkbox"/> <input type="checkbox"/> 1	( ) _____ AGE
6. A. wk. Character	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2	( ) _____ NATIONALITY
10. Shrewdness	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5	( ) _____ MARITAL STATE
13. Selfishness	<input type="checkbox"/> <input type="checkbox"/> 2	( ) _____ TYPE OFFENDER
15. Lack conceit	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4	( ) _____ PREV. RECORD
17. A. Lv. Comfort	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1	( ) _____ PUNISHMENTS
18. Religiosity	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3	( ) _____ PROS. ATTY.
21. A. Tend. Agit.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2	( ) _____ ASSOCIATES
23. A. fail l. les.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2	( ) _____ WKG. AT ARREST
24. A. shp. practice	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3	( ) _____ SOCIAL TYPE
25. A. pos. Wass.	.	( ) _____ MOBILITY
26. A. phys. defect	.	( ) _____ COMMUNITY
28. A. laziness	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3	( ) _____ NEIGHBORHOOD
29. Prv. Wk. Record	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3	( ) _____ FAMILY
30. Trade	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4	( ) _____ WORK RECORD
32. A. lk. Wk. Ablty.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1	( ) _____ I. Q.
33. A. des. clothes	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2	( ) _____ PERS. TYPE
36. A. Wanderlust	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2	( ) _____ PROGNOSIS
37. A. brk. family	<input type="checkbox"/> <input type="checkbox"/> 2	( ) _____
39. Family ties	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4	( ) _____
40. Rural Type	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2	( ) _____ DRINK
41. Happily Married	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3	( ) _____ WASSERMANN
42. Gd. Environment	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2	( ) _____
43. A. bad Environment	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1	( ) _____
44. A. crim. family	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3	( ) _____
46. A. Recidivism	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3	( ) TOTAL BURGESS SCORE _____
47. A. gd. job prison	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1	( ) _____
49. A. min. rackets	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2	( ) PROB. NO VIOLATION _____
50. Fav. age relat.		( ) _____
51. A. unf. age rel.		( ) _____
52. Brk. crim. record		( ) _____
53. Lg. time serve Mx		( ) TOTAL FACTOR SCORE _____
54. A. short time Mx		( ) _____
Index Questions <input type="checkbox"/> <input type="checkbox"/>		

## APPENDIX H

## Bibliography

BRUCE, ANDREW A., HARNO, ALBERT J., BURGESS, ERNEST W., LANDESCO, JOHN.

*Parole and the Indeterminate Sentence*, Chicago, 1928.

Only part bearing on prediction is contained in Part IV, "Factors Determining Success or Failure on Parole", pp. 205-34. Contains XXXII tables giving the results of Tibbitts' experience tables for Joliet, Pontiac and Menard.

This is the first attempt actually to apply a predictive instrument, and is the classic so far, at least, as Illinois is concerned. It makes no attempt, however, at real, detailed study. A method is simply chosen and tried.

GLUECK, SHELDON and ELEANOR T.

*500 Criminal Careers.* New York, 1930.

Consists of an intensive study of the pre-institutional, institutional and post-institutional factors in the cases of 510 young male prisoners, whose parole from the Massachusetts Reformatory at Concord expired during the years 1921 and 1922, with special reference to success or failure not only on parole but also during a five-year post-parole period.

The portions especially relevant are Chapter XVI, "Relation of Pre-reformatory Factors to Post-parole Criminal Status," in which coefficients of contingency are calculated for 53 factors; Chapter XVII, "Relation of Reformatory, Parole, and Post-parole Factors to Post-parole Criminality"; and Chapter XVIII, "Predictability in the Administration of Criminal Justice," in which is described for the first time the celebrated "Glueck Method" of scoring. Chapter XIX, "The Point of View of the Ex-prisoner," and Chapter XX, "Summary, Conclusions and Recommendations," are of subsidiary value.

*One Thousand Juvenile Delinquents.* Cambridge, Mass., 1934.

Only parts bearing on prediction are pp. 177-84, "Relation of Factors and Characteristics in Lives of Juvenile Delinquents to Recidivism," which contains a table showing the factors which had the highest C's and their respective C's. It is unfortunate that nowhere the violation rates for all the sub-categories of each factor (page 302) seem to be given, and

Chapter XI, pp. 185-90, "Predicting the Behavior of Delinquents." This chapter gives information on the six factors actually used by the Gluecks in this study, and tables giving predicted probabilities of violation when the recommendations of the clinic were and were not followed.

The Gluecks are adherents here, as elsewhere, to the "few unweighted factors" system, although they acknowledge that for the table they give the "unweighted favorable factor method" would raise their C of .28 to .32.

The usual praise is due to the usual Glueck type of accurate, thorough, painstaking study. The only criticism, as elsewhere, is their apparent willingness to sacrifice an admittedly "slight" gain in accuracy to their own convenience primarily and secondarily on the ground that the simpler the system the more likely it is to be applied and well applied.

*Five Hundred Delinquent Women,* New York, 1934.

Only parts bearing on prediction are Chapter XVII, pp. 284-98, entitled "Predicting Recidivism and Appropriate Treatment" and a paragraph, pp. 324-25, entitled "Predictive Instruments," which forms part of the chapter entitled "Summary, Conclusions, and Recommendations."

Really a "follow-up" to the theories advanced in *500 Criminal Careers* and *One Thousand Juvenile Delinquents* with some slight changes in methodology based on increased experience. The Gluecks, as before, are firmly convinced of the superiority of a few high-contingency factors over a large number of unweighted factors.

The usual Glueck thoroughness is shown in this third book. Unquestionably a careful, thorough, mature study.

Objection may be raised, however, to their having adopted the "maximum difference of percentage" method instead of the Pearsonian C to measure significance of individual factors. They dismiss defense of this with the assertion that it is "equally effective and less time-consuming" and that Professor Hooton thinks it valid. Where an inmate's liberty on the one hand, and society's interests on the other are at stake, any pains of the investigator seem justified.

They further continue to prefer "a few, *weighted* factors" over the Burgess method on the ground that Vold and Monachesi have shown that they are about equally good and that theirs is easier. Perhaps both could be improved by use of a large number of weighted factors.

HART, HORNEILL.

"Predicting Parole Success," *Journal of Criminal Law and Criminology*, 14: 405-14, 1923.

Consists of a discussion of Warner's article and a refutation of his null findings.

Although some of the differences Hart finds significant may be valid, his results cannot be accepted without independent check. His mathematics appears to be questionable, as evidenced by his findings in regard to "mother arrested or jailed." Further, he has a tendency to combine two or more of Warner's categories *without adequate assurance that original categories are strictly mutually exclusive*.

He sets great store by the consistency of results and their accord "with the theories and beliefs of criminology" and has a pronounced tendency to rationalize and explain away any findings which do not accord with his preconceived notions. His attitude in general is that of a social philosopher rather than a social scientist.

In his dicta concerning the possibilities of prediction he falls into the "single group fallacy" and is a strict adherent of the maximum number of factors even where the significance of some does not accord with common sense as in the "no record" or "not answered" categories.

The chief virtues of the article lie in (a) showing the absolute contrariness of prevailing parole methods (but here he merely echoes Warner) and in (b) being most definitely a precursor of the Burgess scale concept—even to the point of wording of reports.

He recommends weighting of factors by testing their intercorrelations (nothing further stated).

LANNE, WILLIAM F.

"The Good Hoodlum," an unpublished manuscript.

A concise definition of the code of ethics of the so-called good hoodlum. The article is based upon first-hand acquaintance with many members of criminal society.

"A Method for Determining the Relative Accuracy of a Series of Prediction Tables," an unpublished manuscript.

A short, technical description of a new mathematical procedure designed



to show which of a number of prediction tables actually accords best with observed outcome. The method consists of the application of the theory of probability to measures of the significance of differences.

"Parole Prediction as Science," *Journal of Criminal Law and Criminology*, 26:377-400, 1935.

A synthesis of parole prediction procedure as described in the literature to date. Contains also new suggestions, particularly with regard to stability of factors for use in prognostic tables.

SUTHERLAND, EDWIN H. and VAN VECHTEN, CORTLANDT C. JR.

"The Reliability of Criminal Statistics," *Journal of Criminal Law and Criminology*, 25: 10-20, 1934.

A thorough-going study into the reliability of various items of information concerning prisoners, as secured by the police, penal institutions and social welfare agencies. Shows conclusively the unreliability of unverified data.

THURSTONE, L. L.

*Computing Diagrams for the Tetrachoric Correlation Coefficient*. Chicago, 1933.

A book of graphs, from which may be read directly the values of tetrachoric  $r$ 's when the proportions of the total population in each of the four cells has been determined.

*The Theory of Multiple Factors*. Ann Arbor, Mich., 1933.

A penetrating analysis of the problem of resolving a complex situation into its basic dimensions. Certainly a great forward step in those fields where causation depends on a number of complex, intercorrelated factors. The method described contains Spearman's Tetrad Difference Method as a special case.

*A Simplified Multiple Factor Method*. Chicago, 1933.

Revision and simplification of the procedure described in the above. Very complete instructions are given for the mathematical procedures employed, thus making it possible to apply the method even without entire comprehension of its underlying theory.

TIBBITTS, CLARK.

"Success or Failure on Parole Can Be Predicted: a Study of 3,000 Youths Paroled from the Illinois State Reformatory," *Journal of Criminal Law and Criminology*, 22: 11-50, 1931.

An extension, with certain refinements, of the original Burgess technique to a much larger group—3,000 consecutive parolees from Pontiac. These cover the period from about January 1, 1921 to December 31, 1927, and consist of a consecutive 2,000 running backward from July 1, 1925 and another 1,000 after that date.

Tibbitts counts only those factors or subcategories whose violation rates are less than 20.0% or more than 30.0% (his average rate of violation is 24.7%). He also appears to suggest some sort of plus less minus scoring.

"Reliability of Factors Used in Predicting Success or Failure on Parole,"  
*Journal of Criminal Law and Criminology*, 22: 844-853, 1932.

A clear and succinct investigation into the differential reliability of 16 of the Burgess factors on the basis of 907 cases graded by Tibbitts in 1927 and again in 1928. Both the percentage of changes and coefficients of contingency are used as criteria.

The reliability of the total factor score is found to be only  $0.763 \pm 0.009$ , and some of the factors are found to have extremely low coefficients of contingency.

Tibbitts characterizes the first eight factors in Table II as "reliable" and the remaining eight as unreliable, without setting up a definite criterion.

He appositely states that the classifications must be reliable or they are valueless and proposes three criteria for the selection of factors:

- (1) Correlation with outcome
- (2) High reliability
- (3) It is questionable whether factors  
which demonstrate interrelationship should be used.

VOLD, GEORGE B.

*Prediction Methods and Parole*. Minneapolis, 1931.

Consists of a careful, thorough application of both the Burgess and the Glueck methods to (a) a group of 542 parolees from the State Prison, (b) a group of 650 parolees from the Reformatory, and (c) the combined group of 1192 cases from the two institutions. Each group is split randomly into a "control" group and an "operating" group, and the data found on one are used to predict outcomes on the other, which latter can then be checked by actual experience.

Contains also a table showing prediction and actual outcome on 282 cases paroled after completion of the original study.

A thoroughly careful, judicious attempt to apply actual experimental tests in the solution of such problems as (a) what factors to use, (b) whether or not to weight, (c) whether the combined group can be used or individual institutions must be handled separately. The conclusions reached are on the whole sound.

The chief criticisms are that Vold did not apply tests of significance to his tabular results and so judges his tables by guess-work. Although fairly accurate, he definitely goes astray in believing that his 25 selected factors give better results than the 17 factors with highest mean-square contingency coefficients.

Some valuable material on reliability—his  $r$ 's of reliability are *very* low.

Falls into the single group fallacy and makes no attempt to rationalize the etiological significance of some of his factors.

WARNER, SAM B.

"Factors Determining Parole from the Massachusetts Reformatory,"  
*Journal of Criminal Law and Criminology*, 14: 172-207, 1923.

A most careful, thorough-going and well planned investigation into the factors actually considered by the Board of Parole in the Massachusetts Re-

formatory and the potential value of each of sixty-four other items available to the Board but not utilized.

The conclusions arrived at are that of the criteria now used, only Recidivism and Offense are true criteria except that length of time served is a criterion insofar as it measures not time served, but shortness of parole period. (All sentences are definite and parole runs until discharge.) Punishment Record and Reports by Reformatory Officials are totally uncorrelated with success.

The only item not now used, which might be profitably used is Alienist's Report—particularly his division into "accidental offenders," "recidivists" and "feeble-minded". Such report exists, however, in less than half the cases.

Every one of the remaining sixty-odd pieces of information is valueless as a criterion of parole.

This article is a magnificent example of patient, thorough, fair-minded, scholarly investigation of facts. Every statement is carefully weighed and thoroughly temperate, although absolutely fearless. The only possible objection is that Warner did not apply tests for the significance of a difference to his findings. In most cases, however, mere inspection shows that the differences are merely random fluctuations. He does tacitly fall into the "single group fallacy."

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